Railway Age

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The Anthracite Carriers

THE strike of the anthracite miners on September 1 has, since it was first threatened, given rise to much comment in the press concerning the future of the anthracite industry. It has been pointed out, for example, that the demand for anthracite in certain sections of the country—notably, the Central West and the Northwest—has fallen off markedly in recent years as a result of the changing competitive relationships between anthracite and bituminous which have accrued to the disadvantage of the former. Several competent observers have even maintained that anthracite is a luxury for those sections that continue to use it—notably, the Northeast and New England. A noteworthy feature of the discussion is that so little has been said about the railroad interest in the situation. Naturally it is great, but it is as nothing to what it formerly was. The changes that have taken place in recent years with respect to the hard coal carriers have been many. They have in the main disassociated themselves from their coal properties. The activity of their managements—as indicated in operation, traffic solicitation, or what not—has succeeded in building up other business, including particularly the fast freight traffic in which most of the anthracite carriers seem to excel, in such volume as to have subordinated the importance of the formerly all-important anthracite tonnage. It is noteworthy that the anthracite operators, thus far at least, seem to have attracted little or no unpopularity. This also is a marked change from previous labor difficulties in the anthracite mining area. It does not lack a certain amount of irony that this ill feeling on the part of the public on these previous occasions was directed at the anthracite carriers inasmuch as they were also the operators, whereas this time, now that carriers and operators are separated, the ill feeling seems not to exist. We know, of course, that the dissociation of transportation and mining has had nothing to do with it. As a matter of fact, the situation is such as to remind one of how much progress has been made. There are but few roads that have a better standing with their patrons or the public generally than do the hard coal carriers.

Efficiency in Fuel Consumption

THE most striking figures in the statistics of the Interstate Commerce Commission showing the operating results of the railways in June are those regarding fuel consumption. The number of pounds of coal consumed in road freight service per 1000 gross ton-miles was 127. This is the best record in efficient use of fuel ever made by the railways in freight service in any month, the best previous record being 131 lb., which was made in August, 1924. The records made in June of the four preceding years were as follows: 1921, 145; 1922, 141; 1923—when the condition of locomotives was still affected by the shop employee's strike—146; 1924, 135. The amount of fuel consumed depends not only upon the efficiency with which it is used but also on weather conditions, being, of course, other things being equal, less in summer than in winter. The making of this new low record for summer months was due entirely to the improvement in locomotives that is constantly going on, and to improvement in the supervision of employees and in the way that employees do their work. In every month of the present year the railways have made more efficient use of fuel than in the corresponding month of any previous year. In the first five months of the year fuel consumption in road freight service was 147 pounds per 1000 gross ton-miles, as compared with 161 in the corresponding months of 1924; 175 in 1923; 166 in 1922 and 172 in 1921. If the freight service rendered and the average price paid for fuel per ton be assumed to have been the same in the first five months of each of these years as in 1925 the saving due to the increase in the efficiency with which fuel was used in the first five months of 1925 is found to have been $13,175,000 as compared with the first five months of 1924; $26,350,000 as compared with the first five months of 1923; $17,890,000 as compared with the first five months of 1922; and $23,576,000 as compared with the first five months of 1921. The foregoing figures relate to road freight service only. In passenger service the efficiency with which fuel is used has been correspondingly increased; and no doubt if the statistics were available they would show a similar improvement in switching service.

Periodical Physical Examinations

NARROW-MINDED jealousy is a fly in the ointment of a great many phases of human affairs, and notably in large establishments where officers and foremen cannot keep in close touch with employees, as on a railroad. The difficult problem, What to do about it, is brought up by a correspondent in a letter which appears elsewhere in this issue. The fact that of two persons who are at odds, one with the other, one is often quite innocent, makes this a pressing question. The parties cannot be left to destroy each other, like the Kilkenny cats, for to assume that both equally deserve capital punishment would work gross injustice. The need is for some scheme to induce an aggrieved individual to unbosom himself to somebody; but to whom? A requirement that employees shall report all misconduct is embodied in some railroad codes, but this rule, even when phrased in the most impersonal language, is very imperfectly obeyed and seldom enforced. Our correspondent evidently refers quite definitely to a trainmaster who ought to be called to account for having dealt unfairly toward one or more enginemen; who is believed to have been so unfair that, in the enginemen's view, he is their enemy. How can an engineman, in such a case, be induced to bring his grievance into the light instead of nursing it in the dark? We have referred to the trainmaster as one who ought to be

called to account. This is not saying that he deserves censure or has been unfair. A fair officer welcomes being called to account, if it is done properly. The superintendent who can find a way to break up this semi-secret grieving, on the part of employees otherwise efficient, will do a great service to the railroad world. As we write, we are in receipt of the New York Central's rules for physical examinations. A perusal of these rules (reprinted on another page) impresses one with their scrupulous fairness. It is trite to say that this is a subject on which hundreds or thousands of enginemen are exceedingly sensitive; but the plain duty of every railroad, nevertheless, to know the condition of every engineman, so far as it can, as to both physical and mental abilities, is one that cannot be evaded. The *need* for these examinations—the root of the jealousy which we are considering—is also a point that is not well enough recognized. The accident investigations published by the Interstate Commerce Commission rarely give us any useful light on the question of health brought up by our correspondent.

Is the Commission an "Economic Dictator"?

THE address delivered at Detroit this week by Kenneth F. Burgess, general solicitor of the Burlington, which is published elsewhere in this issue of the *Railway Age*, is a significant and striking discussion of the way in which rates would be regulated under the Hoch-Smith resolution if what seems to have been the theory of its authors were given effect.

Practically all economists of reputation who have studied the subject have agreed that freight rates should be based on the cost incurred by the railway in rendering its various services, and also on the value of these services to the shippers—in other words, on "what the traffic will bear." The principle of "charging what the traffic will bear" as applied when the traffic managers made the rates often has been severely condemned by economists, shippers and public men and, as Mr. Burgess points out, the tendency of Congress, commissions and courts has been for years to cause rates to be based more and more upon the cost of service.

Under the Hoch-Smith resolution, apparently, "the stone which the builders refused is become the head stone of the corner." By that resolution "it is hereby declared (by Congress) to be the true policy in rate making to be pursued by the Interstate Commerce Commission in adjusting freight rates, that the conditions which at any given time prevail in our several industries should be considered in so far as it is legally possible to do so, to the end that commodities may freely move." "Due regard" is required to be given, among other factors, to the "general and comparative levels in market value of the various classes and kinds of commodities as indicated over a reasonable period of years," and reference is made to "the existing depression in agriculture" as a condition to which the commission must give especial attention in readjusting rates. There is in the resolution no reference to cost of service as a rule of rate making, unless the words "so far as it is legally possible to do so" are to be thus considered.

The interpretation placed upon the resolution by those who believe it enunciates a new policy of rate making is that in future paramount, or even exclusive, consideration must be given to "what the traffic will bear." As Mr. Burgess shows in his clear and striking analysis, if this interpretation is to be accepted and acted upon, then the commission will be in future the dictator of the development and prosperity of every one of the country's industries in so far as their development and prosperity may be determined by the way in which freight rates are adjusted.

The obvious purpose of the authors of the resolution was, in the interest of the agricultural industry, to have rates reduced on farm products and compensatingly advanced on other commodities. But, as has heretofore been pointed out in these columns, the rule will not work this way if only present price levels are considered because the average wholesale price of farm products is now 62 per cent higher than in 1913, while the average wholesale price of all commodities is only 60 per cent higher, and the average price of metals and metal products, for example, is only 26½ per cent higher. Furthermore, the production of agricultural commodities in the United States is necessarily limited by the circumstance that the amount of farm land available is limited. The output of manufacturing industries is not thus circumscribed by natural conditions. It appears likely, therefore, that the tendency of the law of supply and demand will be in future to cause prices of farm products to increase more over periods of years than prices of manufactured commodities. If this should be the prevailing tendency, and the commission should base freight rates mainly on prices, then the rates on farm products would be advanced more—or reduced less—than those on manufactured products.

But, as Mr. Burgess points out, the resolution does not direct the commission to consider merely price levels. It directs it also to consider "the conditions which at any given time prevail in our several industries," "the natural and proper development of the country as a whole," and "the maintenance of an adequate system of transportation." If the resolution really means that in freight rate-making what the traffic will bear is to be given almost sole consideration then the conclusions suggested by Mr. Burgess as to the policy the commission must follow are clearly correct.

It must consider not only the prices being received by each industry but also the "conditions" which prevail in it, and if it finds that one industry is greatly prospering and another is suffering from adversity it must advance the rates on the products of the former and reduce them on the products of the latter. Presumably it must also consider the true value of each industry to the public, for otherwise it will not adequately consider the "natural and proper development of the country;" and if it finds that one produces luxuries and the other necessities it must make the freight rates of the former relatively higher and of the latter relatively lower. It must counter the law of supply and demand by putting freight rates down on commodities when the law of supply and demand puts their prices down, and by advancing freight rates on them when the law of supply and demand puts their prices up. It will give doles in the form of low freight rates to industries that have become worthy objects of charity, and transfer the burden of which they are relieved to other industries which, from better management or other causes, have become too vulgarly prosperous. Thus will railway regulation be used not only to equalize financial results as between the railroads themselves, but also as between all the industries of the nation, and the commission will become a kind of benevolent despot or earthly Providence of American business.

The first official interpretation of the Hoch-Smith res-

olution will be made by the commission. It can find warrant in the words of the resolution "in so far as it is legally possible to do so" for holding that in regulating rates it must continue to give great weight to the cost of service. If the provisions of the Transportation Act and past decisions of commission and courts may be considered as defining what it is "legally possible to do," then, in spite of the Hoch-Smith resolution, the commission may, and, in fact, must continue to base rates on cost of service as well as on value of service.

Mr. Burgess has done well to point out what would be the consequences if the Hoch-Smith resolution should be otherwise interpreted and applied. Whatever was the purpose of the authors of the resolution, it seems quite evident that Congress did not intend to set up the commission as the "economic dictator" of the country. All it was trying to do was to make a political gesture which would be pleasing to the farmers. Without weight being given to what "it is legally possible to do" the Hoch-Smith resolution has given the commission a power over the industries of the country that Congress never meant it to exercise. With weight given to these words it means that the commission shall give due consideration to the principles of rate-making that were established and recognized before the resolution was passed.

Planning a Convention

DISTINCT evidence of the marked growth of the Roadmasters' and Maintenance of Way Association is afforded by the plans perfected for the convention at Kansas City on September 22, 23 and 24. Both the convention of the association and the exhibit of the Track Supply Association are to be held in the municipal convention hall, the reason for this being that no hotel in the city is provided with a room large enough to house both of these activities or with adjoining rooms having adequate capacity for each alone.

Most railway officers are familiar with the conduct of the conventions of one or more of the railway associations, but not many of them are conversant with the problems which confront the officers and directors of the Roadmasters' Association in perfecting the plans for its annual meetings. The attendance at these meetings has grown to such an extent that provision for a meeting hall of adequate size, affording convenient access to suitable space also for the supply exhibit, has become a serious problem. The convention sessions are long, which means that opportunity for a study of the exhibit is limited to the hours preceding and following the day's sessions and the noon recess. To make these preiods of definite value for this purpose it is essential that the convention hall and the exhibit space shall be located in close proximity. This arrangement has the added advantage that it holds the crowd together during the convention period. During recent years arrangements have been made for evening meetings, with the same object in mind.

The fact that several hotels in Chicago have been able to provide space meeting the requirements of the Roadmasters' convention plus its central location has favored that city as the meeting place for many years. But in fairness to members of the association located in the east and the west it has been felt desirable to hold some of the conventions in other cities. Convention bureaus and chambers of commerce, representing various cities, have generally been of definite assistance in perfecting convention plans, but the fact that they are not thoroughly conversant with the peculiar requirements of this association and that of the track supply manufacturers has placed the burden of perfecting plans definitely upon the officers of the two associations. These problems have become more formidable from year to year and have been peculiarly so at Kansas City, with the result that the plan to use the auditorium was adopted.

Better Employee Relations

THE term co-workers is today a common one in not a few commercial and manufacturing industries. It serves to soften the sharp line of distinction between the workers and representatives of the management, at the same time strengthening the discipline by the building up of a better and finer spirit of co-operation. It tends also to emphasize the fact that many of our larger industries and commercial organizations have grown to such size that no one man or even small group of men is in financial control and that in a real sense representatives of management and workers are all employees upon whom devolve the responsibilities of promoting the best interests of the organization as a whole—in the case of a public utility in particular, this broadens out and includes the entire community.

Significant of the change which is taking place in the attitude of the railway managements and workers toward each other are the 18 system "better relationships" meetings which have been promoted by the Transportation Department of the Y. M. C. A. during the past year or two. These have brought together more than 5,000 railroad officers, supervisors, workers and representatives of the workers for the friendly and constructive discussion of their mutual problems in a Christian atmosphere. These system meetings have inspired a large number of smaller local gatherings of a similar nature and have undoubtedly proved a large factor in bringing about better understandings and a larger and more intelligent degree of co-operation.

For a number of years the Industrial Department of the Y. M. C. A. has been holding annual "better relations conferences" in different sections of the country. These usually extend over a two or three-day week-end period. The problems which are discussed apply with equal force to both the industries and the railroads and other public utilities, but until this year the participation of railroad representatives has been almost negligible. A marked change, however, in railroad attendance and participation has been noted at three of these conferences on human relations in industry which have been held during the summer.

For example, the Fifth Annual Week-End Conference on Human Relations in Industry which was held at Estes Park, Colo., the latter part of July, had at least one railroad officer on the program and was immediately followed by a six-day school for industrial, railroad and business executives, which included a strong railroad section, one feature of which was a study course on co-operative management led by G. H. Sines, assistant to vice-president of operation of the Union Pacific. This course dealt with supervision, employee representation, wages and working conditions, labor turnover and stabilization, and co-operation. Some idea of the spirit of the week-end conference and the school may be gained from the fact that the following topics were among a number of others scheduled on the programs: The mind as a factor in industrial accidents, a friendly basis for industrial relations, the human factor in production, building and maintaining confidence in industrial operations and training for leadership.

A week-end industrial conference at Blue Ridge, N. C., early in August was attended by a large delegation

of representatives from the Chesapeake & Ohio, including operating and mechanical officers and a shop crafts union chairman. The entire group was greatly impressed by the spirit of the conference and the information which was developed, and, though it was not scheduled on the program, held one most constructive railroad session.

The climax of these conferences on human relations in industry, so far as railroad participation and representation are concerned, was reached in the Industrial Conference which was held at Silver Bay on Lake George, N. Y., last week. There was a large delegation of railroad representatives from at least six different roads, the Chesapeake & Ohio leading off with 14 representatives headed by the assistant to the president, and including operating and mechanical officers and several union leaders, among whom was the system general chairman of the shop crafts. One of the features of the conference was an address by President L. F. Loree, of the Delaware & Hudson, on stabilizing employment. (Reprinted elsewhere in this issue.) C. R. Dugan, assistant to vice-president of the New York Central Railroad, also made an address on the purpose and significance of the sale of stock to employees. Among other topics on the program were industry's obligation to superannuation and an evaluation of present and proposed plans, processes in labor organization making for better relations and efficiency, production wastes (material and men), incentives, foreman training and health services.

Not a single railroad representative could be found who was not enthusiastic over the conference and its purposes. This is particularly noteworthy because the problems considered all pertained to employee relations and the group was made up of representatives of both management and workers. Indeed, the 600 people in attendance at the conference included executives, personnel workers, foremen and supervisors, workers, labor leaders, economists, etc. Then, too, time was allowed for an open forum discussion of all of the addresses. Naturally there were many differences of opinion; indeed, some of the representatives expressed themselves exceedingly frankly and forcefully, and yet after a three-day meeting they all went back home more or less enthusiastic over the conference and with a friendly attitude toward each other.

One does not have to seek far to find the reasons for this. In the first place, conditions at a summer conference grounds are such that social and class distinctions are largely forgotten; the accommodations are of a very simple nature, and the entire group dines at the same time in a large dining room, the groups at the various tables constantly changing. The conference is held under the direction of a Christian organization. The meeting places of the three conferences mentioned are in the mountains, far removed from railroads and industries.

While the delegates come from many states and many fields of endeavor, they are quickly made to feel at home by the character of the program. Each session, for instance, is opened with music under the direction of a skilled leader of mass singing.

Those who are charged with the leading of the discussion periods understand the saving grace of humor, and tense situations are frequently relieved and better understandings reached by the appeal of the humorous side of an argument. The problem of human relations is in many of its aspects a spiritual problem and spiritual considerations are kept more or less in the foreground, although not in an obtrusive way.

The speakers naturally must protect themselves by being dead sure of their facts and sound in their logic, because while the discussion tends along constructive lines and controversy is avoided, yet they must be prepared to protect their statements. It is true that the time for discussion in the meeting hall is sometimes limited, but the spirit of the whole conference grounds is such that the attendants have no hesitancy in approaching each other anywhere on the grounds outside of the meetings, to continue the arguments. Incidentally these informal discussions are frequently most helpful and productive.

The representatives come to the conference in an attitude of trying to find solutions for the difficult problems with which they are confronted and to help each other in a constructive way to come to better understandings. As a result, representatives of the different elements, coming in intimate contact with each other, frequently find that it is necessary to revise or modify their ideas and conceptions as they get a better appreciation and understanding of the other side of the question. These conferences during the past decade have proved extremely helpful to the industries and it would seem that the railroads could profit greatly by enjoying a larger participation in them.

The Accounting Problem of the Potter Plan

THERE is one factor of utmost importance in the discussion of the Potter plan that seems thus far almost entirely to have escaped notice. Reference is meant to the difficulties of the accounting required to put the plan into effect. The plan of the St. Paul receivers calls for a 5 per cent increase in rates in the western district, the pooling of the proceeds of the increase, and distribution of the latter among all the carriers in proportion to the deficiency of each carrier's net railway operating income under the return of 5¾ per cent. It has been already pointed out in the discussion that the basis on which the 5¾ per cent is figured—notably, the book value or valuation—is thus far an uncertain one and will remain so until the Interstate Commerce Commission has proceeded much further with the valuation work. Apparently no one has noticed that the other factor in the 5¾ per cent computation also is uncertain—namely, the net railway operating income. Any railway accounting officer will understand immediately the point that is raised because it has already come to his attention in the problem of accounting for recapture. Others who have not been confronted with that particular problem will secure some light on how much of a problem has arisen by studying the abstract of Bulletin No. 108 of the Railway Accounting Officers' Association given in the report of the annual meeting of that association in the *Railway Age* of June 20, 1925, page 1521.

The carriers and the Interstate Commerce Commission seem to be rather far apart on the matter of accruals, the Commission having ordered what the carriers believe to be a needlessly complicated and expensive method of setting up the accounts for the recapture period. Just as the problems of the Potter plan are similar to the problems of recapture, so are they similar to the accounting for the federal control and guaranty periods which have plagued the railway accounting departments until quite recently and been a source of trouble, worry and expense, however necessary, to everybody concerned. Admittedly the railway accounting officers would not find it impossible to solve any accounting problems presented by the Potter plan. That is not the point. The trouble is the amount of work that would prove necessary, the expense of that work and the time required not only to evolve a plan of action but to do the actual work and settle the numberless questions that would arise. It would be a matter of years rather than of months.

New Books

Interstate Commerce Act. By Karl Knox Gartner, Commerce Counsel, Washington, D. C. 263 pages. 5½ x 8½ in. Bound in Cloth. Published by LaSalle Extension University, Chicago.

This book is a summary or digest of the Interstate Commerce Act. Each chapter deals with a section or portion of a section of the act. At the head of each chapter is a synopsis of the subject matter of the chapter, followed by an analysis of the subject matter of the portion of the act covered. Following this is a brief summary of the chapter and in most instances a section designated "Case Application" in which are given theoretical problems and the findings relating thereto.

The book is in three parts. Part I, 72 pages, is devoted entirely to Section 1 of the act. Part II, 94 pages, summarizes Sections 2 to 31 inclusive. Part III, 97 pages, covers Sections 14 to 27 inclusive. The unfortunate feature of the book is that each of the three parts is paged separately so that in reality the effect is given of three books bound within one cover. The book might have been improved at a slightly additional expense had the publishers thought it advisable to reprint the text of the act itself.

Proceedings of the American Railway Engineering Association. Volume 26, 1925. 1,456 pages, 6 in. by 9 in. Bound in cloth. Published by the association, E. H. Fritch, secretary, 431 South Dearborn street, Chicago.

This volume presents the complete report of the convention held in the second week in March, 1925. The volume differs in no particular respect from its predecessors and contains the report of 22 regular and two special committees, together with the discussion of their reports from the floor. The subject matter contained will be of value to the reader in proportion to his own interest in the particular subjects. Illustrative of some of the matter contained in the volume is a review of train control by the Committee on Signals and Interlocking; revised specifications for rail and rail failure records by the Committee on Rail; reports on economics of handling l.c.l. freight and the requirements of auxiliary facilities in passenger stations, by the Committee on Yards and Terminals. Several valuable studies on various phases of train operation were submitted by the Committee on Railway Operation. The Committee on Ties presented an exhaustive report on the use of foreign woods as crossties on American railways. One of the most voluminous reports is that of the Committee on Stresses in Track. This presents some conclusive data on the advantages of canting rail.

The Resistance of Express Trains, by C. F. Dendy Marshall, M. A. Bound in cloth, 9 in. by 12 in., 86 pages, 55 illustrations and diagrams. Published by the Railway Engineer, London, Eng. Price 20 shillings.

The subject of train resistance is extremely interesting and of practical importance to railroad men. Although considerable experimental work has been performed relative to this problem, comparatively little that has been written about it has been published in book form. The author has sought to provide a book from which the important results of numerous tests and experiments may be obtained. It contains 17 chapters, including such subjects as internal resistances of cars, track resistance, effect of acceleration, gradients, curves and winds. There are five chapters devoted to the discussion of wind resistance in which the effect of oblique winds, direct winds and resultant winds are considered. Three additional chapters are also included in which the author has reviewed the recent developments and findings on train resistance, a summary of formulas and a description of the dynamometer car used on the Great Western Railway of England.

The author has made a number of suggestions relative to new lines of experiments which can be followed without much difficulty. He has also described a number of modifications applicable to standard practice that are aimed to bring about better running conditions and economy in the use of fuel. Although the book is written primarily from the standpoint of railway practice in Great Britain, practically all of the conditions described and the treatment of the various problems of train resistance are applicable to railway practice in this country.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

Aircraft Year Book 1925. Extension of commercial services, world flight, co-ordination with railroad and other transport, improvements in equipment. 316 p. illus. Pub. by Aeronautical Chamber of Commerce of America, Inc., New York City. $5.25.

Railway Statistics and the Operating Officer, by Maj. F. H. Budden. Discussion of what statistics are most useful for operating officers, and includes examples of statistics compiled by railways in England, Canada and the United States. Technical paper no. 242. Railway Board, India. 167 p. Pub. by Central Publication Branch, Govt. of India, Calcutta, India. 2 shillings sixpence or Rupees 1-8.

A Treatise on the Law of Public Utilities Including Motor Vehicle Transportation, by Oscar L. Pond, 3d ed. 1163 p. Pub. by Bobbs, Merrill Co., Indianapolis, Ind. $10.00.

Periodical Articles

Industrial Applications of Oil Engines. Summaries of papers on oil-engines as drive for pipe-lines, in refrigerating practice, etc., including costs of operation, presented during Oil and Gas Power Week at Kansas City. Mechanical Engineering, Sept., 1925, p. 743-745.

Mr. Ford is Interviewed, by Judson C. Welliver. Mr. Ford's views on motor, air, rail and ocean transport, p. 274-278. American Review of Reviews, Sept., 1925, p. 264-278.

The New Science of Management, by Geoffrey C. Brown. Outlines historical background of scientific management. American Federationist, Sept., 1925, p. 754-763,

The Northwest Swings Back to Prosperity, by Agnes C. Laut. "Railroad difficulties," p. 293-296. Editorial comment, p. 228-231. American Review of Reviews, Sept., 1925, p. 289-297.

Standardization in the Machine-Shop Industry, by Carl J. Oxford. Mechanical Engineering, Sept., 1925, p. 772-773.

Who Owns Our Corporations? Statistics of stockholders of various large industries. Dr. J. H. Parmelee presents railroad ownership by classes of stockholders including the number of women stockholders. Nation's Business, Sept., 1925, p. 46, 48.

A World Afraid of Production, by Benjamin M. Anderson, Jr. How interallied debts, reparations, the tariff situation and other economic difficulties react on industry [railroads, p. 23-24]. Chase Economic Bulletin, August 24, 1925, p. 1-34.

Letters to the Editor

[The RAILWAY AGE *welcomes letters from its readers and especially those containing constructive suggestions for improvements in the railway field. Short letters—about 250 words—are particularly appreciated. The editors do not hold themselves responsible for facts or opinions expressed.]*

A Human Relations Problem

NEW YORK.

TO THE EDITOR:

What can be done to eradicate from the railroad service the spirit of petty jealousy that constitutes such a persistent element in practically all working forces of human beings where large numbers are bossed by a very few? In speaking of the railroad forces I refer more particularly to the tram-operating men. Jealousy is not more common in that branch than in others, except as the men have more important and ticklish questions to settle than do clerks or station-men or workers in the shops; but it is common enough; and a very little of it makes a bad blot on the human side of the relations between the men and their bosses or supervising officers.

A friend has shown me, in a Southern newspaper, an advertisement recently put forth by the Central of Georgia Railway which brings this question to mind. In this advertisement the president of the road says, among other things:

"There is general recognition and appreciation by patrons of the Central of Georgia of the efficient service now being performed by this railroad. Prompt and adequate transportation speeds up business, stabilizes production, prevents unemployment of labor, and has a beneficial effect upon commerce and industry. The Central of Georgia last year handled more business than in any year of its history. The large increase in business in the last 10 years is in part due to the development of the territory it serves, but mainly to ability to render satisfactory service. One of the main factors in good service is the loyalty and efficiency of its employees.

"The Central of Georgia has in round numbers 10,000 employees, and they regard themselves as members of one big family. They co-operate with one another and while the first concern of each is to do the work assigned to him, every one is ready and willing to do everything in his power for the improvement of the service. For example, they have organized associations to solicit business and to urge the public to travel and ship by the Central of Georgia. Their efforts do not cease when business has been secured, but each of them interests himself in seeing that traffic is promptly and carefully handled. They regard each car of freight as a guest to be given the best possible treatment. They are courteous to every patron of the railway.

"Co-operation is not confined to relationship between employee and employee, but exists between management and employee. The management of the railroad endeavors to do its part by providing continuous employment, under agreeable working conditions, at fair rates of pay. The company provides a pension system for those who, because of infirmities or old age, are unable to continue their occupations; also group life insurance whereby the employees may protect themselves and their families against disability and death at nominal expense. . . . The employes have recently voted, by an overwhelming majority, to establish a hospital department. The company will advance money for the construction of a hospital at Savannah and the department will be financed by monthly contributions from each officer and employee. . . . The officers and men understand each other and come into close personal contact. All have a common purpose. All believe in their railroad and its future."

I have no reason to doubt the accuracy and fairness of the statements here quoted. I have little knowledge of conditions in the Southern states but I have noted with much satisfaction various articles in the *Railway Age* telling of the progressiveness and enterprise of the Central of Georgia, and the energetic way in which it carries out its plans for promoting real friendship with its employees. My present purpose, however, is to point out a contrast; no, not a contrast, but a problem. I will not contrast the Central of Georgia with the railroads whose practice I am to cite, for the Central may have some "defectives" among its 10,000 employees and the bad practice which I shall recount is not to be taken as typical of all practice on the roads referred to. I am not comparing good roads with bad ones, but good practice with bad (or unsatisfactory) practice.

The other side of the picture comes from a conversation which I have had with an inspector, favored with governmental backing, who has enjoyed the confidence of enginemen, firemen and other train-service employees for many years. And this inspector, I may add, is a former railroad officer of character and ability. Discussing a notable collision, he said: "The question whether an engineman who runs past a stop signal was at the time in perfect control of normal brain power is one that seldom gets proper attention. Physical examination of enginemen is a business in which there will often be found a great difference between the theoretical ideal and the actual practice. Such examinations should be made at quite frequent intervals; in numerous serious accidents it has been found that the engineman was not in first-class condition and there was strong presumption that that was the primary cause of the accident. When this phase of the matter was brought to the attention of a number of enginemen I was immediately confronted with the statement that they would not in any way submit to this, because it would be merely 'one more chance for an unscrupulous officer to get rid of them, if he had any personal axe to grind against a particular man. It must be recognized, of course, that this is only a pronounced manifestation of a well known phase of 'human nature.' Nobody can gainsay the attitude thus expressed. This is distinctly unfortunate. Anything which can be done to overcome this attitude will do more than any other thing of which I know in promoting harmony in the railroad family."

Here, Mr. Editor, you have an example of petty jealousy in a vital matter. An engineman refuses to have his health tested because he fears an unfair judge. He forgets that his own interest demands the test; he thinks only of his grouch. Old railroaders will recall that for years the enginemen all over the country protested against being tested for color-blindness on just this very same plea: they feared an unjust judge. (At least, that was their only published reason. How many of them were actually color-blind, had "got away with it" for years, by the aid of a faithful fireman, and hoped to keep on thus risking their lives, is not for me to say.)

What I want to say is that here is an important discrepancy that needs to be dealt with. The officers of a railroad strive in every way to be fair to their men (vide Central of Georgia) and yet there will be individual instances where this laudable purpose is ineffective. The best efforts fail to cure all of the narrow and selfish or ill-tempered enginemen or all of the dull or wrong-headed trainmasters and superintendents.

I lay this before your readers. I did not set out to name a remedy. I think, however, that I may with propriety suggest that the course of the Central of Georgia, in thus defining its attitude in public, has set a good example. A railroad which has accomplished such a notable improvement is well entitled to put the fact on record. And a road which should venture to claim greater virtue than it was actually putting in practice would risk very prompt exposure—which would be good both for itself and the public.

W. STREET.

Railroads Need College Men

MINNEAPOLIS, Minn.

TO THE EDITOR:

I have read with a great deal of interest the articles which have appeared from time to time in the *Railway Age* in regard to the railroads and the college man. Being a college graduate and in active railroad work I have formed some very definite opinions on this subject.

The charge often made against the railroads that they do not encourage college men, either before entering railroad work or afterward, is I believe to a great extent true. It seems to be a fixed idea among many railroad men that the college man is too sophisticated and has more or less of a theoretical outlook on life, which forever precludes the possibility of his making good in the railroad world, where practical experience seems to be the hub around which everything revolves. The idea that anyone who has gained knowledge through books is a misfit on a railroad is all too prevalent, as any college man who has entered railroad work knows only too well.

It seems to be the general opinion that in order to be a good railroad man a man must be, to use a common expression, "hardboiled"; he must be able to indulge freely in the art of profanity and must otherwise possess more or less of a rough character. This idea is as old as the railroad profession itself and has influenced many a man, who otherwise might have made a splendid success, from entering the railroad field. I distinctly remember in my own experience of being soundly spanked for hanging around the depot because, as I was told, railroad men are not a good influence on young boys. In my boyish way I loved to watch the big engines and moving trains and it was a severe jolt to my ambitions to have the men, whom I regarded as heroes, classed among those with whom I was forbidden to associate. And this little illustration merely follows the general idea that a man who is educated and has learned some of the finer things in life is unfit for the great work of transportation.

The charge is often made against the college man who enters railroad work that he expects to receive all sorts of special favors because of his training. This is true of many college men, not only in railroading but in any other field of human endeavor. Personally I know of several such men who are just waiting for some splendid position to be handed them gratis, without making any effort to earn such a place on their own merits. But the average man just out of college is anxious to do something worth while and is more than willing to work hard to accomplish his aim in life. And I do not believe he expects any special favors because of his training, although this is the national anthem of those who do not believe in education, or who are fearful lest they be replaced by some man who has had superior training and has profited by it.

There is no royal road to the top in any profession and any man, be he a college graduate or not, must make up his mind before he starts that he must begin at the bottom and build a solid foundation, or in later years his life structure will crumble from being top heavy.

The vulnerable point in the argument of those who believe that railroading cannot be learned except through experience, is the fact that experience is not the only road to knowledge. There are countless things that can be learned through study which the man who does not study never knows. Experience is a valuable teacher but experience often wastes too much time in accomplishing results. Take, for instance, any of our sciences—chemistry, physics, medicine or engineering. Would the great progress that has been made in these fields have been possible if every man engaged therein had formed his conclusions solely through his own limited experience? The answer is obvious. As men have made new discoveries and formed new theories they have written down their results and their experience has become a stepping stone to those who have come after them. Is railroading such a difficult profession, and one so different from every other, that the same methods cannot be applied even in this field? I do not think so.

The railroads have suffered a loss by not encouraging men with trained minds to enter this profession, and giving them recognition after they have come into the work. The college man does not deserve any special favors any more than the man who does not possess such training, but his superior training should entitle him to some consideration and he should be given every opportunity to advance himself as fast as he possibly can, provided he has the other qualities that make for success. Many a good man has been rendered worthless by being kept in a routine job year after year and never given an opportunity to prove himself worthy of something better. And in such a case the railroad is the heaviest loser.

The habit of study is one of the most valuable of all accomplishments and the employee who makes fun of another who spends his spare moments in studying his job and learning something of the positions above him is too narrow-minded to know how ignorant he is. The man who conscientiously studies his work will advance to positions of greater responsibility and there is no power that can keep him down.

The railroads need college men, as much, if not more, than other industries who are ever on the lookout for such men of the right caliber. The training they have had will be a valuable asset in any business and this must be recognized by every railroad officer no matter how hard it is for him to make the confession. Transportation is the biggest business in the world and needs to recruit men of good education, judgment and common sense who will become leaders in the field. And the man with a good education, coupled with practical experience is indispensable in the great field of transportation.

ROBERT O. JOHNSON.

What Are the Faults of College Men?

SOUTH BETHLEHEM, Pa.

TO THE EDITOR:

I note with interest a letter from Mr. Latimer in your edition of August 8, 1925. In it Mr. Latimer apparently thinks of Mr. Le Van and others as being "stuck on themselves" because they are college men. Undoubtedly this is true in a great many, if not a majority of instances. But it should not be inferred that all college men are "stuck on themselves." Even if 95 per cent of them did over-estimate their importance, the remaining five per cent who desired to enter railway work would constitute a large number. And it is likely that among that five per cent there would be a great many men who had gone to college for serious business and had "absorbed" quite a bit of knowledge.

As for Mr. Le Van I can say that he is not a bit "stuck on himself." He is a good hard worker. He has been elected secretary of the student Civil Engineering Society and has served as secretary-treasurer of the Lehigh Railroad Society, because of his sincere interest, faithful attendance and co-operation in engineering matters pertaining to these societies.

If a college man doesn't "have more knowledge and

broader training" than the average man who has not had a college education, then why should anyone be a firm believer in college education? It stands to reason that he must have broader knowledge or there would be no use for colleges.

It is no doubt correct that about 65 per cent of the human race cannot profit by an education in college, but requirements for a degree in engineering here are such that few "dumb-bells" can get it. I believe it would help the situation somewhat if we could hear criticisms from more railway officials regarding the faults of college men. In that way we might be able to start right in to correct some faults to the mutual benefit of both.

GILBERT B. GRUNWELL.
Lehigh University '27.

From a Long-Distance Observer

WASHINGTON, D. C.

TO THE EDITOR:

Conditions of travel nowadays remind one occasionally of the article which you published some weeks ago on "The Problem of Late Trains." Anyone who travels much must agree with the severe strictures that you made. The almost universal neglect in the chalking up, in station waiting rooms, of the expectations concerning arriving trains, is a small detail (which may be a full-size detail to some passenger) that, it would seem, ought to be easily corrected.

Why not give, in the *Railway Age*, a lot of examples of poorly managed bulletin boards, with some good ones? However, it will of course be found in this, as in other lax practices, that in the personnel is the trouble. How is it that managements tolerate the employment of such slovenly help at all passenger stations except the very largest ones?

Besides being a chalk artist, the custodian of the bulletin board needs to know how to talk. He, and the woman who answers questions at the desk, ought to be made to vie with each other in efficiency, instead of remaining competitors, one with the other, in laziness.

The man who writes on the board mechanically but does not have enough pep to answer the simplest questions, ought to be made to attend night school for six months.

He knows what the passengers want, but lacks the mental energy to arouse himself and give them adequate replies.

Railroad officers do seem to try to train their men a little, here and there, but the officers apparently have no sense of proportion; too much effort in one direction, too little in another. My observation has been that their educational work has been done usually at too long range. You must get superintendents to act as well as talk. The superintendent has got to find out why an outwardly respectable station agent habitually allows his chalk artists and other assistants to do slovenly work. And it looks as though a *large proportion* of agents need this jacking up. The officer needs to tackle them *one at a time*.

Railroad officers evidently confer with each other a lot; but this seems to end in talk. They do not discuss these details in formal meetings. In personal conference they do swap information, but they don't bring things to a head. However, that is not the trouble. It is a lack of courage. They have information enough. Anyone who goes around and sees actual conditions among the "subordinate officers," so-called, will see what is the matter. All hands know what the needs are, but each man seems to think that he has some other duty or duties which must take precedence of this apparently minor matter.

This feeling—it is really the spirit of evading responsibility—extends to questions of train operation. The train-master or chief dispatcher feels satisfied with 98 per cent of trains on time because he sees that other divisions, or other roads, do no better, and because he finds that to accomplish the two per cent additional will require a dozen impossible things. He would have to do a lot of night work, out on the road; he would have to get the superintendent's approval (which means the general manager's and perhaps that of the directors) for some appropriation of money believed by the superiors to be questionable; and he would possibly have to suspend a conductor or an engineer (involving a long controversy with the grievance committee). With so many obstacles he falls down.

You will agree that the most hopeful remedy for all this inefficiency would be the appointment of *bigger men* to the positions of train-master, chief dispatcher and station master. A good deal bigger. And it takes a very exceptional superintendent to make this change. Governmental regulation and surveillance are useful in their place but how can a government, even the most efficient, get down to these details?

Do you know of one or more exceptional superintendents? Men, I mean, who would have the grit to "jack up" the subordinates, all along from the top of the force to the bottom?

Once the superintendent is convinced that the need exists, and that he can trust himself to meet it, he should start out to produce results.

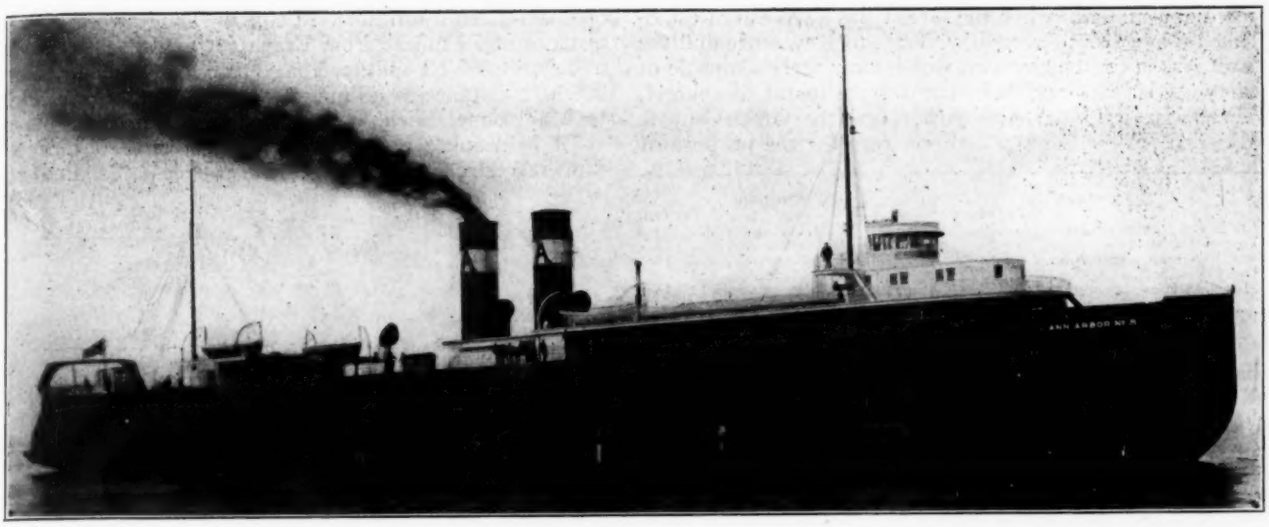
The *Railway Age* has tried to promote good practice here and there by offering prizes for essays; a good thing, but only a palliative of the entrenched evils. If you want really to jar the sluggish ones, just *get some railroad* (or railroads) to offer prizes for excellence and get them to make the scheme complete by *penalizing neglect*. They can do this; you, of course, cannot. Where one man deserves a prize there will be numbers who deserve a reprimand, or something—perhaps friendly counsel—for not trying to get the prize, or for not trying with their whole strength.

Back of all these details, of course, is the chilling effect of the widespread feeling that station work is of secondary importance at best; that the trainmen are the ones to be brought up to better standards of conduct. How to get railroad officers out of this rut, I do not know. When conditions compel the maintenance of a station at a cost of $2,000 a year while the income is only $500, it is no wonder that enthusiasm is lacking. However, if the public ever attains that degree of intelligence where it can define what it wants, municipal officials may wake up and do something.

Instead of asking for the construction of a large and beautiful new station building, many a city might well call for the employment of more efficient, polite and thoughtful station employees.

EX-AGENT.

EXPORTS of refined sugar from Canada during the month of June amounted to 45,436,600 pounds, valued at $2,873,785, as compared with 5,677,300 pounds, valued at $450,513, in June of last year, according to a report issued by the Bureau of Statistics. Receipts of raw sugar during the first half of 1925 show an increase of 133,000,000 pounds over the corresponding half of last year, while from the first of the year to July 18 the total manufacture of refined sugar increased over 166,000,000 pounds, as compared with the same period a year ago.

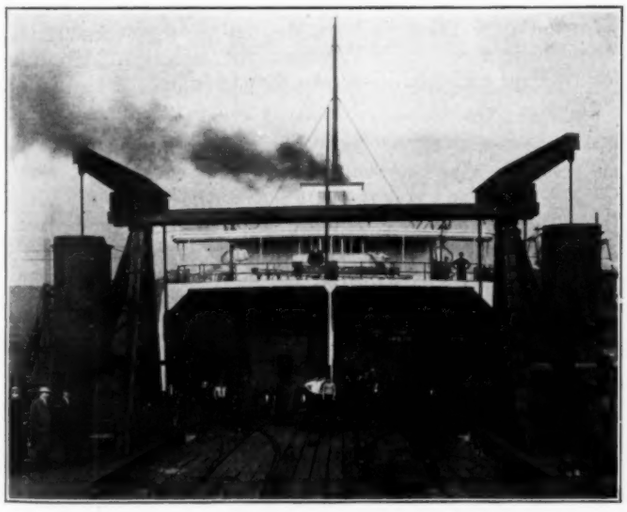


Ann Arbor Ferry No. 5, Largest in the World

Car Ferries Aid Transportation

Traffic between east and west avoids terminals and saves time by crossing Lake Michigan

CAR ferries transported 4,390,854 short tons of revenue freight, exclusive of the deadweight of cars, across Lake Michigan during 1924, or approximately 30 per cent of all the tonnage handled by all ships operating on this lake. This traffic was handled by 15 car ferries, seven of which were operated by the Pere Marquette, five by the Ann Arbor and three by the Grand Trunk. The traffic consisted of 200,000 loaded and over 50,000 empty cars. The floating equipment of the three companies has a replacement value of over $10,000,000 and the docks, tracks and auxiliary land equipment a value of approximately $5,000,000.



Rear View of a Car Ferry, Showing Track Layout

The ferries have a capacity for handling 1,176 cars daily when the traffic is evenly distributed at all points. These boats are capable of carrying an average of 28 cars and of traveling 5,000 miles per month or better than 166 miles per day, which is equal to 1½ trips each 24 hours. Although the ferries are built primarily to handle freight they are also equipped to accommodate a limited number of passengers, transporting 13,749 passengers during 1924 in spite of the fact that no effort was made to solicit their patronage.

Traffic Handled in 1924

The traffic handled in 1924 aggregated 4,390,854 tons, of which 2,047,207 tons moved eastbound and 2,343,647 tons westbound. The Pere Marquette handled 1,345,191 tons westbound and 868,178 tons eastbound or a total of 2,213,369 tons. The Ann Arbor handled 853,550 tons eastbound and 651,453 tons westbound or a total of 1,505,003 tons. The Grand Trunk handled 347,003 tons westbound and 325,279 tons eastbound or a total of 672,282 tons.

The distribution of traffic between the car ferry ports, as reported to the district engineer in the United States Engineer's office at Milwaukee, Wis., shows that the port of Ludington, Mich., handled the greatest movement in 1924, having shipped 1,345,191 tons and received 868,178 tons. Milwaukee forwarded 770,840 tons and received 1,129,124 tons. Manitowoc, Wis., shipped 683,131 tons and received 770,840 tons. Frankfort, Mich., forwarded 651,453 tons and received 853,550 tons. Grand Haven, Mich., dispatched 347,003 tons and received 325,279 tons. Manistique, Mich., shipped 218,062 tons and received 99,927 tons. Menominee, Wis., sent 239,742 tons and received 188,103 tons. Kewaunee, Wis., shipped 199,918 tons and received 155,653 tons.

A careful calculation of the character of tonnage moved by car ferries is given in the table at the top of the following page.

Car ferries were first placed in operation on Lake

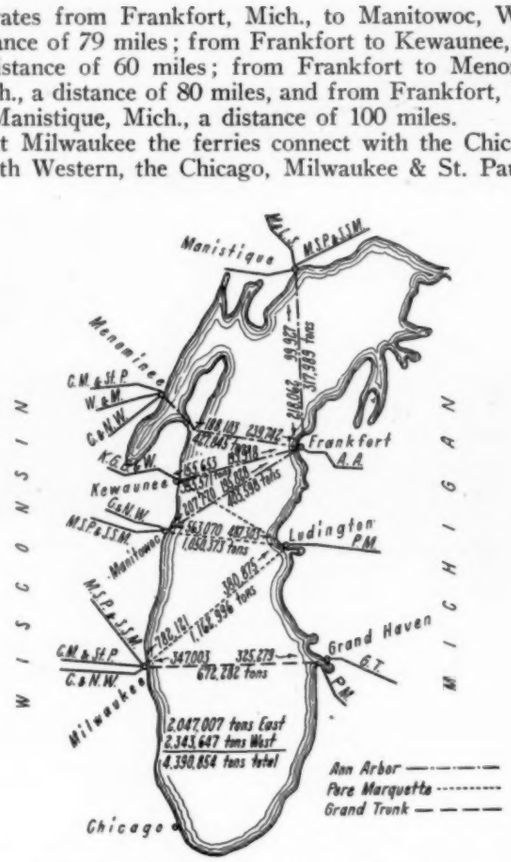
Michigan in 1888, when the Green Bay & Western established a line from Green Bay, Wis., to Kewaunee and the Ann Arbor constructed two wooden car ferries capable of carrying 18 cars and built car ferry slips at Frankfort, Mich. In 1889 the Ann Arbor and the Green Bay & Western jointly leased 1,000 box cars for the purpose of handling lumber and flour between Frankfort, Mich., and Kewaunee. In 1890 the Ann Arbor extended the scope of its operations and established service between Frankfort, Mich., and Menominee, Wis., and between Frankfort and Manitowoc, Wis.

Eastbound	Per cent	Westbound	Per cent
Grain and grain products	20	Coal, all kinds	60
Forest products	32	Iron and steel articles	15
Pig iron and iron ore	10	Automobiles and parts	10
Dairy products	5	Miscellaneous manufactured articles and merchandise	15
Miscellaneous manufactured goods and merchandise	28		
Paper	5		

The Flint & Pere Marquette established its first car ferry service in 1897, when it put into operation a steel car ferry called the "Pere Marquette," between Ludington, Mich., and Manitowoc, Wis. The Chicago & West Michigan and the Detroit, Grand Rapids & Western purchased a car ferry operating on Lake Erie, known as "Shenango No. 1," in 1898 and placed it in operation between Milwaukee, Wis., and Muskegon, Mich. In 1900 the Flint & Pere Marquette, the Chicago & West Michigan and the Detroit, Grand Rapids & Western were consolidated and ferry operations were transferred from Muskegon to Ludington. The Grand Trunk started car ferry operation between Milwaukee and Grand Haven, Mich., in 1906.

The service on these lines has been increased by the addition of new ferries from time to time until at the present time the Pere Marquette operates seven, the Ann Arbor five, and the Grand Trunk three. The Pere Marquette operates from Ludington, Mich., to Milwaukee, Wis., a distance of 100 miles; from Ludington to Manitowoc, Wis., a distance of 62 miles and from Ludington to Kewaunee, a distance of 63 miles. The Grand Trunk operates between Milwaukee, Wis., and Grand Haven, Mich., a distance of 85 miles. The Ann Arbor operates from Frankfort, Mich., to Manitowoc, Wis., a distance of 79 miles; from Frankfort to Kewaunee, Wis., a distance of 60 miles; from Frankfort to Menominee, Mich., a distance of 80 miles, and from Frankfort, Mich., to Manistique, Mich., a distance of 100 miles.

At Milwaukee the ferries connect with the Chicago & North Western, the Chicago, Milwaukee & St. Paul and the Minneapolis, St. Paul & Sault Ste. Marie. At Manitowoc they connect with the Chicago & North Western and the Minneapolis, St. Paul & Sault Ste. Marie. At Kewaunee they connect with the Kewaunee, Green Bay & Western. At Menominee they connect with the Chicago & North Western, the Chicago, Milwaukee & St. Paul and the Wisconsin & Michigan. At Manistique



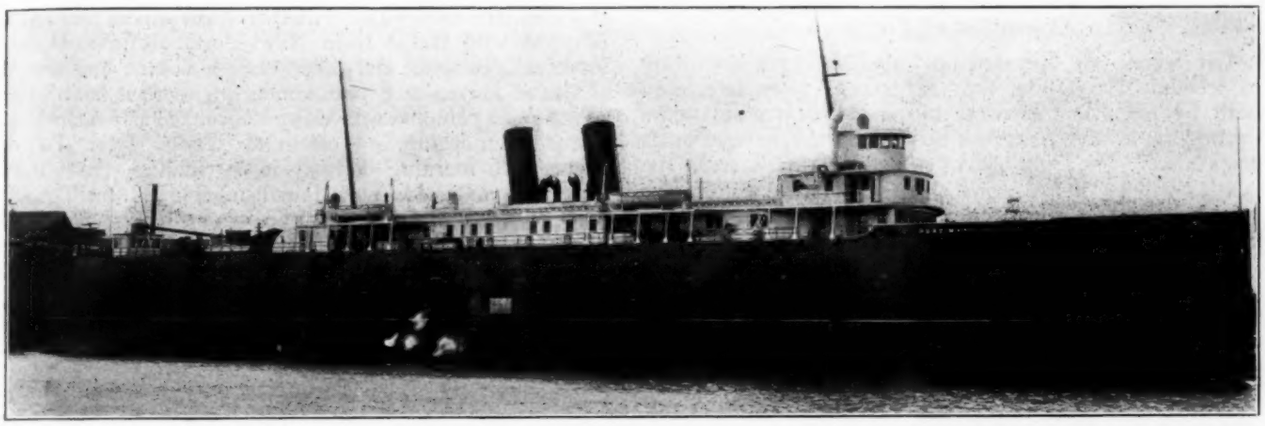
Eight Car Ferry Routes Cross Lake Michigan

COMPARISON OF TRAFFIC IN 1924, 1923, 1922 AND THE AVERAGE TRAFFIC FROM 1915 TO 1919, INCLUSIVE

Harbor		Freight: Short tons shipped	Freight: Short tons received	Total freight S. & R.	Passenger: In	Passenger: Out	Passenger: Total
Ludington, Mich.	1924	1,345,191	868,178	2,213,369	3,358	3,543	6,901
	1923	1,491,764	988,033	2,479,797	2,340	2,328	4,668
	1922	894,747	870,017	1,764,764	1,742	1,621	3,363
	1915–19	777,140	945,103	1,722,243	....	....	....
Milwaukee, Wis.	1924	706,154	1,129,124	1,835,278	2,322	2,162	4,484
	1923	784,267	1,335,338	2,119,605	2,460	2,096	4,556
	1922	751,049	828,381	1,579,430	2,256	2,579	4,835
	1915–19	883,378	529,797	1,213,175	....	....	....
Manitowoc, Wis.	1924	683,131	770,840	1,453,971	3,196	3,116	6,312
	1923	798,018	925,027	1,723,045	2,217	2,637	4,854
	1922	715,220	587,101	1,302,321	1,135	1,083	2,218
	1915–19	751,304	558,565	1,309,869	....	....	....
Frankfort, Mich.	1924	651,453	853,550	1,505,003	2,103	2,320	4,423
	1923	702,178	848,504	1,550,682	3,414	3,056	6,470
	1922	550,646	811,080	1,361,726	2,403	2,131	4,534
	1915–19	398,410	699,988	1,098,398	....	....	....
Grand Haven, Mich.	1924	347,003	325,279	672,282	1,217	1,208	2,425
	1923	512,101	338,661	850,762	1,337	1,471	2,808
	1922	302,283	324,167	626,450	1,199	1,152	2,351
	1915–19	201,242	352,602	526,844	....	....	....
Manistique, Mich.	1924	218,062	99,927	317,989	330	304	634
	1923	240,454	85,562	326,016	631	639	1,270
	1922	220,868	55,759	276,663	448	529	977
	1915–19	251,318	114,386	365,704	....	....	....
Menominee, Mich.	1924	239,742	188,103	427,845	1,085	1,038	2,123
	1923	201,676	209,203	410,879	1,413	1,647	3,060
	1922	191,598	168,254	359,852	980	1,081	2,061
	1915–19	171,841	96,820	268,661	....	....	....
Kewaunee, Wis.	1924	199,918	155,653	355,571	138	58	196
	1923	150,783	150,913	301,696	134	72	206
	1922	126,529	108,145	234,674	85	72	157
	1915–19	112,852	77,224	190,076	....	....	....

they connect with the Manistique & Lake Superior and the Minneapolis, St. Paul & Sault Ste. Marie.

The Ann Arbor and Pere Marquette have been particularly active in the development of the car ferry and its operation. To the Ann Arbor is accredited the construction of the largest car ferry in the world; the method of transferring loaded freight cars from one vessel to another in mid-lake; the lengthening of one of its ferries by inserting a section of 48 ft. in the center; the uniforming of its officers; the construction of wireless land stations, and the handling of tourist automobiles on the various routes across the lake. The Pere Marquette has developed methods for the expeditious loading and unloading of car ferries at the docks through a system of dispatching similar to that on a railway, which enables schedules to be maintained so that the steamers operate at a certain distance apart and each boat is always within a few hours of relief from a sister ship in case of mishap, the dispatching at terminus being done at first by telegraph and more recently by wireless.

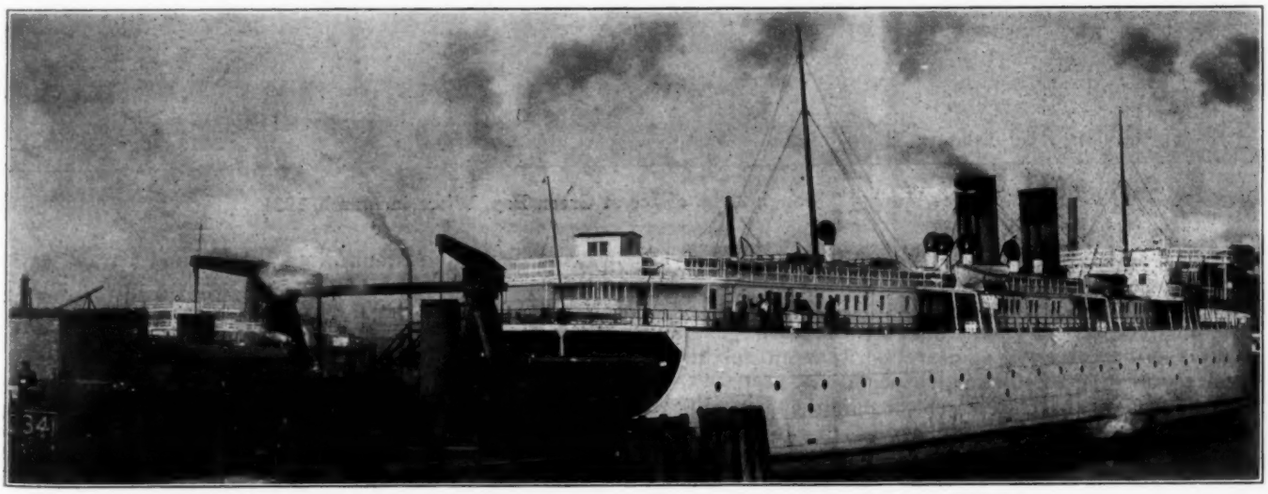


A Pere Marquette Ferry

Advantages Gained by Use of Ferries

Car ferries offer desirable service particularly for carload lots, because of their ability to handle traffic between points west and east of Lake Michigan with less damage on account of switching en route since such shipments avoid the large terminal yards at Chicago, and the interchange at intermediate points which occurs via the all-rail routes. In addition the car ferry routes avoid the congestion which prevails at times in the Chicago terminals. The value of car ferry service is reflected in the report of the United States Army engineers to Congress in March, 1924, in which it was recommended that an appropriation of approximately one million dollars be made for a new harbor at Frankfort, Mich., due to the growing importance of car ferry operation at that port, the tonnage having doubled since 1910.

An example of the advantages of car ferries is shown in the schedule for shipments from St. Paul, Minn., to Detroit, Mich. The shortest all-rail line from St. Paul, Minn., to Detroit, Mich., is 683 miles and freight normally requires 110 hours for movement. The shortest route from St. Paul to Detroit by way of Manitowoc and Ludington is 638 miles, requiring 91 hours and by way of Milwaukee and Grand Haven 613 miles, requiring 96 hours. The time saved is 19 or 14 hours respectively without taking into consideration further possible delays in terminals caused by interchange, classification and inspection.



Loading a Grand Trunk Car Ferry

The time required for cars to pass through the Chicago terminals varies from 12 hours to 96 hours. Such delays are greatly reduced by the use of car ferries since shipments to ferry ports avoid the large terminals.

A comparison of distances from points in the North-

west to the East via the ferries and via rail through Chicago is as follows:

	Via car ferry	Via Chicago	Difference
Between Milwaukee and Detroit	275	357	82
Between Milwaukee and Buffalo	484	606	122
Between Milwaukee and Toledo	304	319	15
Between Green Bay and Toledo	373	431	58
Between Green Bay and Detroit	341	469	128
Between Green Bay and Buffalo	566	718	152
Between Twin Cities and Detroit	609	679	70
Between Twin Cities and Buffalo	818	928	110
Between Duluth and Detroit	630	737	107
Between Duluth and Buffalo	855	986	131

Operation of Ferries

Car ferries are operated on Lake Michigan according to schedule throughout the year except when interfered with by ice. The heaviest movement of traffic occurs during the winter months when other lake navigation is suspended. The Ann Arbor which operates across the northerly part of Lake Michigan maintained continuous winter operation successfully to and from the port of Menominee, Mich., during the winter of 1923-24, which involved a movement of 30 miles across Green Bay where ice ranged from 25 to 30 in. in thickness. This is an undertaking which it never before attempted and which it will continue.

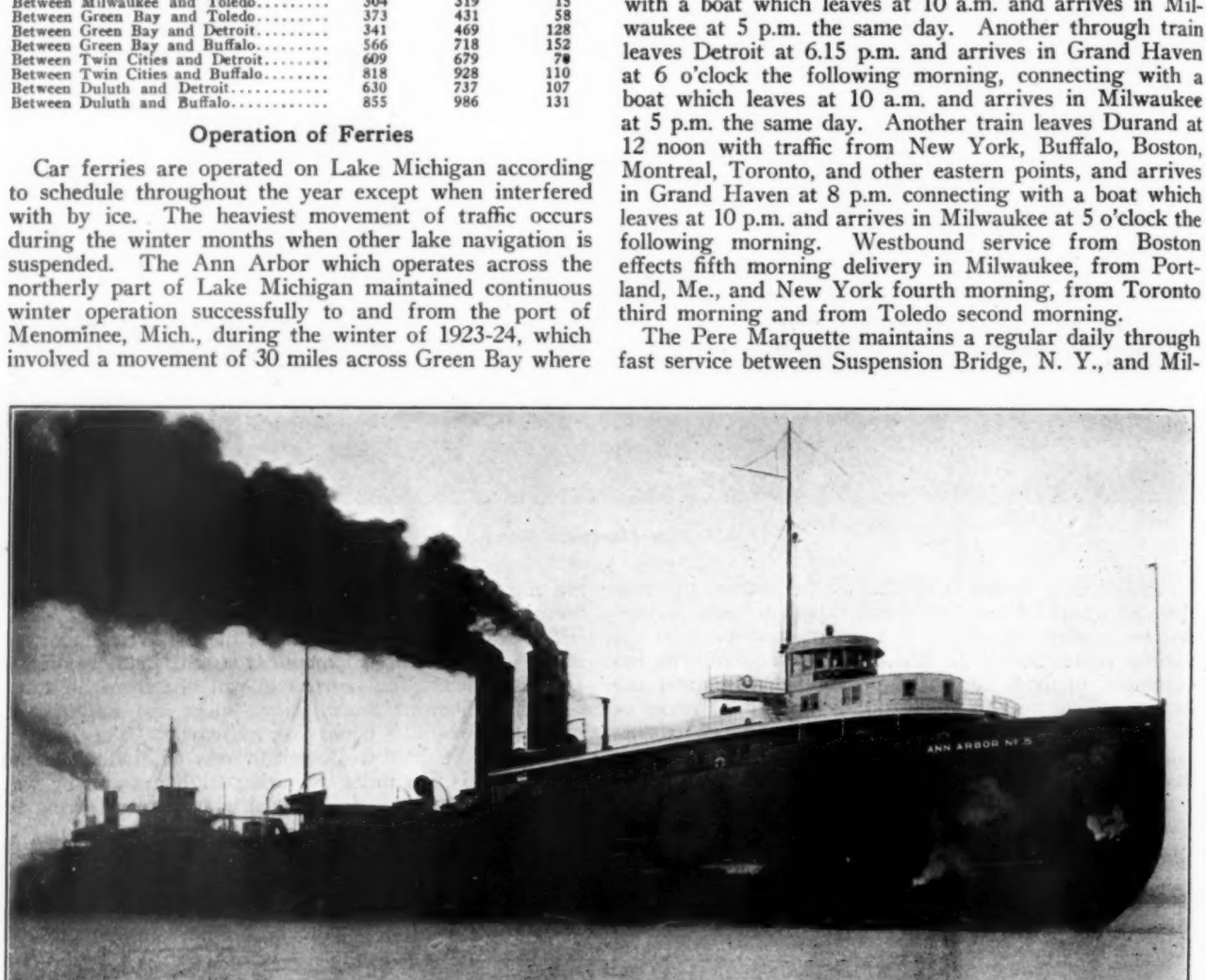
A car ferry costing in excess of $800,000 generally requires no greater expenditure per annum for maintenance than a modern freight locomotive costing from $50,000 to $70,000. The fuel consumption per mile of some of the ferries does not exceed that of a modern freight locomotive. The cost of moving 1,000 gross ton-miles is, therefore, less by car ferries than by rail, while the average miles per car per day via ferry are in excess of those made in rail movement throughout the country.

Typical of the schedules which are in effect, the Grand Trunk ferry leaves Milwaukee at 10 p.m., and arrives in Grand Haven at 5 o'clock the following morning, connecting with a through train which leaves at 8 a.m., and arrives in Durand at 5 p.m., where the train is broken up and connections made with east and westbound through trains. This affords fast freight service eastbound, giving fourth morning delivery in Boston, Mass., and Portland, Me., third morning delivery in New York and Montreal, Que., second morning delivery in Buffalo, N. Y., Toronto, Ont., Toledo, Ohio, and Detroit, Mich. Westbound, a train leaves Detroit at 6.15 p.m. and arrives in Grand Haven at 6 o'clock the following morning, connecting with a boat which leaves at 10 a.m. and arrives in Milwaukee at 5 p.m. the same day. Another through train leaves Detroit at 6.15 p.m. and arrives in Grand Haven at 6 o'clock the following morning, connecting with a boat which leaves at 10 a.m. and arrives in Milwaukee at 5 p.m. the same day. Another train leaves Durand at 12 noon with traffic from New York, Buffalo, Boston, Montreal, Toronto, and other eastern points, and arrives in Grand Haven at 8 p.m. connecting with a boat which leaves at 10 p.m. and arrives in Milwaukee at 5 o'clock the following morning. Westbound service from Boston effects fifth morning delivery in Milwaukee, from Portland, Me., and New York fourth morning, from Toronto third morning and from Toledo second morning.

The Pere Marquette maintains a regular daily through fast service between Suspension Bridge, N. Y., and Milwaukee, Wis., and Manitowoc. Westbound a train leaves Suspension Bridge at 11 a.m. and arrives in Ludington, Mich., at 5.30 the next morning and at Milwaukee and Manitowoc at 6 p.m. the third day, thereby requiring 54 hours elapsed time. Eastbound the train leaves Milwaukee and Manitowoc at 10 p.m., arrives at Ludington at 9.30 the following morning, and at Suspension Bridge at 3 o'clock the second morning. In addition to this service through boats and through trains handle a large volume of dead freight and local business between Michigan and the Northwest.

A fast freight service on the Ann Arbor leaves Toledo at 1 p.m. and arrives at Frankfort at 4 o'clock the following morning. A connecting ferry leaves Frankfort at 5 a.m. and arrives at Menominee at noon, requiring a total of 23 hours. Another ferry leaves Frankfort at 5 a.m. and arrives at Kewaunee at 10 a.m., requiring a total of 21 hours.

An idea of the time consumed in the operation of the ferry may be gained by the log of a Pere Marquette ferry moving between Ludington, Mich., and Manitowoc, Wis.,



Ferries Moving Through 32 in. of Ice at Green Bay, Wisc., in March, 1924

picked at random. The ferry arrived at the north slip in the port of Ludington at 10.20 a.m. and lowered its apron at 10.40, at which time a switch engine arrived. The ferry was unloaded at 11.06 and was reloaded at 11.43. At 11.49 the apron was raised and at 11.56 a.m. the ship left the dock with 30 cars. The time consumed at Ludington was 1 hr. and 36 min. After 5 hr. and 16 min. of sailing the boat arrived at the pier at Manitowoc at 5.12 p.m. and lowered the apron at 5.25. Unloading started at 5.40 and was completed at 6 p.m. The ferry was reloaded at 6.32, the apron was raised at 6.38 and the vessel left the dock at 6.44 with 30 cars. The total time at Manitowoc was 1 hr. and 32 min.

The operation of ferries on the Grand Trunk necessitates an organization of 108 employees including the crews on the boats. Captain C. H. Nicholson, manager of the Canada Atlantic Transit Company and the Lake Michigan, Detroit River and Lake Ontario car ferries at Toronto, Ont., is in charge of the equipment. The division superintendent at Durand supervises the ferries between Milwaukee and Grand Haven and J. A. Clancey, superintendent of transportation, Detroit, Mich., supervises the loading of the ships and determines when the boats are to be run on an off schedule. W. L. Mercereau, superintendent of steamships of the Pere Marquette at Ludington, Mich., is in charge of all car ferry operations of that road. On the Ann Arbor R. H. Reynolds, marine superintendent, Frankfort, Mich., has charge of car ferries.

The departure time of ferries is transmitted to the point of destination by the local agent by wire on the Grand Trunk and by radio on the Pere Marquette and Ann Arbor. The car ferries on Lake Michigan operate under the three-watch system with a crew of 47 on standard boats which receives board and lodging free on the boat. The crew on each of the Grand Trunk boats consists of 52 men. The personnel of the Pere Marquette ferries consists of 46 officers and men.

Ferries are Strongly Constructed

The construction of the car ferries is such that it is possible to operate the vessels the year around and they encounter no serious difficulties except in the most severe weather. During the winter months the boats are somewhat hampered by ice but unless the weather is unusually severe the vessels are able to plow through the ice with little difficulty. In order to pass through ice formations several methods are used. One is to run the front of the boat onto the ice and allow the weight of the vessel to crush through. Another is to run the ship backward and allow the propeller to chop the ice. The only ice formation that renders impossible the operation of car ferries is fresh ice which piles up and packs to the bottom of the channel.

The ferries operating on Lake Michigan are steel ships with twin screws, driven by vertical triple expansion engines. The engines have cylinders with diameters of 22 in., 33 in. and 54 in., with 36 in. stroke, developing a total of 3,000 hp. at 92 r.p.m. Steam is supplied by four Scotch marine boilers equipped with forced draft at 185 lb. per square inch. The average speed of all boats is 13 miles per hour, with only three boilers in service, and one in reserve.

These ferries vary in length from 350 to 380 ft. and with a 56 ft. beam and a molded depth of 18 ft. 6 in. to 21 ft. 6 in. to the main deck which extends the full length of the vessel. The car deck is laid with four tracks with a capacity of approximately eight cars on each of the center tracks and seven on each of the wing tracks. After the freight cars are loaded there is room on the stern for 10 or more automobiles. All ferries have on the upper deck a cabin and staterooms furnishing modern accommodations for passengers.

The vessels are divided below the main decks into seven compartments by six water-tight bulkheads, so that in the event of any bottom injury the vessel will remain afloat with any one of the main compartments flooded. The life-saving equipment comprises four 22-ft. life boats and one 30-person life raft. All vessels are equipped with wireless apparatus for receiving and transmitting messages pertaining to the movement of the vessels, and the traffic of the company.

Cars Jacked Up Off Springs

The cars are secured against movement or rocking on trucks by jacks placed under the car sills. The jacks are fastened to rails which are securely riveted to the boat deck on each side of each track. Six jacks are used for each freight car, four at the corners and two at the centers of the side sills. After the six jacks are put under the car sills, the car bodies are jacked up off their springs.

To load, the ferry backs into a slip built especially for the purpose; a shore apron, which is balanced by weight, is lifted or lowered to meet the main deck of the ferry. Upon this bridge are four tracks which connect with the tracks on the ferry. The apron and the stern of the ferry, when in proper position, are securely clamped and the switching on or taking off of cars is done with ease.

Car ferry operation which was started on Lake Michigan has gradually developed until at present there are three lines on Lake Michigan, two on Lake Erie, one on Lake Ontario, several between Key West and Havana, between Germany and Sweden, between England and Holland, and on Lake Baikal, Russia. In 1903 the Russian government built duplicates of the Pere Marquette car ferries to operate across Lake Baikal during the winter months. Previous to this tracks were laid on the ice but during the freezing and breaking up periods traffic was interrupted.

Periodical Physical Examinations on the N. Y. C.

IN connection with the periodical examination—every year, every two years or every three years—of locomotive enginemen and others, for the detection of physical defects, the New York Central has issued a handbook for the guidance of officers and surgeons, setting forth the regulations and requirements which have been prescribed for this work.

(The testing of men for sight, color sense and hearing is not dealt with in this pamphlet.)

The surgeon makes out a report of each examination of which one copy is sent to the chief surgeon. This report is treated as confidential.

The same regulations have been issued by the general managers of the other roads in the New York Central system. These regulations, which went into effect on August 1, are substantially as follows:

Introduction

In the interest of employees and the public as well as the company, it is deemed best to arrange for a physical examination of certain classes of employees and for re-examinations periodically from time to time.

The purpose of these examinations is to ascertain as accurately as possible the physical condition of the employee. In this way, as has been demonstrated by the work of

several life insurance companies and health organizations, many cases of incipient disease will be discovered and by prompt and proper treatment will result in the extension of the expectancy of life and therefore the economic life of the employee and a restoration to health in many instances. Among such cases would be included diabetes, Bright's disease, tuberculosis, certain types of brain, heart and blood diseases, high blood pressure, etc., the early recognition of which is looked upon by all physicians as one of great importance both as to cure in many instances and marked retardation of progress in others.

Sponsored by health and sanitary boards, life insurance companies and life extension organizations, a well-established movement directed toward the preservation of health, the extension of life and its prolonged activities, has been under way for several years. The results secured have been encouraging and have produced a material extension of life of the individual.

General Rules

Rule 1. Locomotive engineers, locomotive firemen, hostlers, motormen, motormen's helpers (road and yard), and such other employees as may be designated from time to time, must pass a satisfactory physical examination or re-examination. These examinations shall be made every three years of men under fifty years of age, every two years of those fifty years of age and under fifty-five, and annually of men fifty-five years of age and over, or at more frequent intervals if required by law or otherwise. Employees referred to herein who have actual or suspected physical defects that may cause incapacity, shall be examined at such intervals as may be determined by the chief surgeon. These examinations shall not be made immediately following subjection to unusual fatigue. (See separate regulations covering periodical examinations for sight, color, sense and hearing.)

Rule 2. The examining surgeon will make a complete examination in accordance with prescribed form, to determine the presence of any abnormality or disease of the various organs of the body. However, in view of the increased value of the service of an employee because of his experience and familiarity with his duties and in order to prevent undue hardships to an employee in service, he will not be removed from the service temporarily or permanently unless the disability found on re-examination or examination for promotion is such as to interfere with the proper performance of his duties and with the safety of himself or others.

Rule 3. Employees promoted to any of the positions covered by Rule 1 are required to undergo a physical examination, including sight and hearing; and in addition, such employees who by reason of their occupation are required to interpret color signals must also pass a satisfactory examination on colors. To avoid duplication of examinations, when employees are required to take a promotion examination, the promotion examination shall be substituted for the periodical re-examination and re-examination shall be made at the intervals specified in Rule 1.

Rule 4. Employees who have been disabled by reason of accident or disease which predisposes them to sudden incapacity, or whose sight, color sense or hearing may have thereby become affected, must pass a satisfactory examination before resuming duty.

Rule 5. Periodical physical examinations and examinations on promotion shall be made by the chief surgeon or such surgeons as shall be designated by him. In case of disqualifying defects found by the examining surgeon, the employee may be referred to the chief surgeon for further examination. Before such an employee is permanently relieved from his regular duties or his occupation changed as the result of a periodical examination made by the examining surgeon, his case shall be reviewed by the chief surgeon. The chief surgeon is empowered, at his discretion, to obtain laboratory analyses, X-ray or special examinations at the expense of the railroad.

Rule 6. The company surgeon who makes the examination and finds physical defects requiring treatment, shall advise the employee to consult a physician of his own selection and upon request of such physician, will furnish him with a report of his findings. The physician selected will be requested to make a report of treatment rendered and progress of the patient from time to time.

Rule 7. An employee shall be temporarily relieved from service when well-defined mental or physical impairment is indicated which incapacitates him from properly performing his duties and when such impairment can be benefited by treatment or rest, so that his economic life may be prolonged. He will be restored to service when, in the opinion of the chief surgeon, the cause of disability has been corrected or improved to such an extent as will warrant return to service.

Rule 8. An employee shall be permanently relieved from service who has a physical or mental impairment, when, after a reasonable period of medical or surgical treatment it has been determined that such impairment cannot be materially improved or corrected and he is thereby prevented from properly performing his duties.

Rule 9. An employee who fails to qualify on examination by the company surgeon and whose condition warrants temporary or permanent retirement from the service, may be re-examined on his own time by the chief surgeon, and if such employee desires, he may be accompanied by his local chairman and by a physician of his own selection whose fee he shall assume. The decision of the chief surgeon is final, subject only to appeal through the General Committee and the operating officials to be designated on the several railroads.

Rule 10. When it has been finally determined that an employee is unfitted for duty in his occupation, every reasonable effort will be made to provide him with employment which he can perform satisfactorily; otherwise he will be subject to the provisions for retirement.

Rule 11. The cost of the periodical physical examinations, laboratory analyses and X-rays shall be paid for by the railroad.

Rule 12. Reports will be made by examining surgeons showing result of their examinations of all employees and submitted to the Chief Surgeon for his consideration.

P. & A.

Derailment Near Amiens, France, Where Many Passengers Lost Their Lives When Gas Lights Set Fire to Wooden Coaches

Stabilizing Employment on Railroads*

Reasons for fluctuations—Remedies suggested—Need of highest quality of leadership

By L. F. Loree
President, The Delaware & Hudson Company

THE advance made in the last century in transportation and facilities of communication is immensely greater than in all preceding time. It has made possible results not even dreamed of by the most powerful imaginations of the past times. The development of the industrial system consequent thereon has revolutionized the old economic order. Never has any economic change so far reaching in its effects been brought about in so short a time. Necessarily, its effect has been most pronounced upon each of the three elements involved in the industrial organization; namely, upon management, capital and the laborers.

What I have been asked to talk to you about is the efforts that are being made to stabilize employment, and, with conditions as they are, the possibilities of success.

Causes for Lack of Stability in Employment

Before coming to remedies, let us first examine the volume of unemployment and its causes. On the railroads, the fluctuations in employment are confined very largely to the two maintenance branches of the service—the maintenance of the permanent way and the maintenance of the equipment.

1—The most pronounced disturbance is the falling off in business due to a panic; the acute prostration of industrial activity. The greatest depression seldom affects more than 20 per cent of the total number of employees, though as a percentage the figures may run much higher in certain sub-divisions. These major disturbances tend to occur at intervals of approximately 20 years, and at intervals of approximately five years there have been in the past recurring minor depressions.

2—The effect of the changes of the seasons is very considerable, especially in the work of maintaining the permanent way, where it is impossible here in the North to work on the track from about the middle of October to the first of April, forcing the replacement of ties and ballast and much other work within the narrow limits of good weather conditions.

3—Fluctuations are also caused by items of special construction, the laying in of a new yard, the replacing of a large bridge, construction or rebuilding of shops and items of similar character, new forces being assembled to carry on the work and disbanded when the work is completed.

4—Embarrassment is sometimes felt from the demands of other industries, as, for instance, the sharp competition for labor on the part of contractors doing work on the public highways.

5—An exhaustive examination of our own experience indicates that there is a loss in the full working time of the year by reason of sickness of 3.14 per cent, by reason of accidents of 0.16 per cent, and by reason of vacations of 1.94 per cent, or for the first two, which may be classed as unavoidable, 3.3 per cent. Including vacations, which are entirely within the control of the employee, the total loss is 5.24 per cent, which is greater than the total effect of the minor depressions of business and as much as one-quarter of the total effect of the most violent depressions.

6—Labor turnover: Under the operation of the draft during the World War 1,700,000 men, representing a fair sample of the population of the United States, were examined as to their mental efficiency. Of these some 10 per cent were found with such a low level of mental efficiency as to make the responsible officers of the army feel that it would not be safe to send them abroad as soldiers. The demands of industry upon the individual are quite as severe as those of the army. Men of this type who find a place in the railway service are, under normal conditions, encouraged in self-control, surrounded by a favorable environment, and while subjected to constant supervision are given careful training. They are difficult to deal with at the best, being inclined to take holidays whenever they choose, wasting much time in loitering and unwilling to accept a state of discipline. In times of business activity their disposition is such that they are constantly changing about, due to their restlessness under the necessary discipline of the organization, to being tempted by the attractions of mere change or in the baseless hope of betterment. This labor turnover is not a responsibility of the employer. It is a phenomenon of flush times—an effort to employ the unemployable.

Remedies Suggested

Having assembled the more significant of the causes for fluctuations in employment, it will be interesting to examine the suggestions made as to the avoidance of their effects:

(A) A policy may be adopted upon a careful study and review of all the elements involved and a budget prepared for the expenditures of the year. Such a plan could, in the main, be steadily carried forward and uncertainty and confusion eliminated. It permits of a considerable adjustment of labor. As a result of several years' trial we feel this method should be promoted and perfected.

(B) The freight moved by the companies is divided into revenue freight; that is, the business they do for others, and non-revenue freight; that is, the business they of necessity undertake on their own account, such as hauling rails, ties, ballast and other material. To the extent that these non-revenue movements can be crowded into the periods when traffic is light, because of seasonal variations, the effect is to stabilize employment, and while the ratio of influence to the total body of men may be small, the ratio of influence as to certain groups may be large and the relief correspondingly great. Our company, for example, has storage at the terminals for a considerable amount of engine fuel and concentrates much of this non-revenue freight movement into the slack season, the spring and early summer months.

(C) It has been suggested that by changes in the accounting requirements of the Interstate Commerce Commission some influence might be exerted upon stabiliza-

*An address before the Eighth Annual Industrial Conference at Silver Bay on Lake George, New York, August 28, 1925.

tion of employment, but inquiry into eight or ten suggested changes indicates that they would be barren of results.

(D) There would seem to be promise in a study of the possibility of affording to the individual continuous employment through his engaging under two different employers in the same occupation or under one or several employers in two or more occupations. The practice on the Delaware & Hudson is to lay its steel rail in January, February and March, and to put in its ties in April, May and the first half of June, releasing a considerable proportion of the track men to then find employment with the contractors on the public highways and in other work of similar character, both private and governmental.

On the Kansas City Southern before the war we had worked out and brought to very successful operation a plan under which about 300 colored trackmen were employed from December 1 to May 1 in laying rail, putting in ties and ballast, and were then sent North to the C. B. & Q., where they were employed on similar work from May 1 to October 1. They then returned South and went into the fields as cotton pickers for October and November. The employment was very popular. Its inducements were such as to give us the pick of the labor community and the gang was a highly efficient one. Freight trainmen handling the Great Lakes coal and iron ore business in the summer months find employment on other divisions in the winter in moving grain from the West to the seaboard. Such diversity, if carefully studied and utilized, would go a long way toward overcoming the seasonal variations.

Elastic Working Day

(E) We have been trying now for three years on the Delaware & Hudson the use of an elastic day. In the past few years, partly through advantage being taken of the difficulties in which we were involved by the war, some industries found themselves committed to a labor day of eight hours. It is manifest that this cannot be secured in agricultural and many other employments. What the ultimate effect will be of what may come to be considered as the selfish enjoyment by part of the population of superior advantages, perhaps at the expense of the balance, remains to be seen. The day of eight hours would appear to have been adopted for purely sentimental reasons, perhaps the most potent of which is that the day can be facilely talked of as divided equally into periods of eight hours for sleep, eight hours for work and eight hours for play. No inquiry was made as to what would be the effect upon the provision of the things we must use or consume in human maintenance. Manifestly, if no one worked the population of the United States would disappear in perhaps the next six months. We know from experience that it can sustain itself and make substantial progress with a labor day of ten hours; we are now in the way of finding out whether it can do so by working eight hours.

It is quite evident that an elastic day varying between limits of eight and ten hours can be used to stabilize employment, if, as has been the experience of the railroads, the volume of business is not likely to be affected by variations of more than 20 per cent.

Our agreements with our shopmen provide that *men are not to be discharged until the whole force is on an eight-hour day, nor are additional men to be employed until all are working ten hours.* The effect of this is to give the men an opportunity to participate to the fullest extent in the bounties of good times and to be protected in the continuity of their employment against the adversity of bad times.

The old plan was to reduce the normal working time in periods of depression. When this is done to the extent that the standard of living is substantially affected it creates great discontent. It was this mistaken effort to spread the available employment as thin as possible in order to keep the maximum number on the payroll that brought on the great railroad strike of 1877. *The effect of our agreement for an elastic day has been that in the three years that it has been in force we have not had occasion to discharge any man because of lack of work, while some men have for considerable periods been able to add substantially to their earnings.* The change is highly appreciated by both the company and the men and is very popular

Employment Relation Voluntary

In considering employment relations it is important to recognize that it is not going to be possible to reduce the management, who conceive the enterprise and carry on the administration of the business, nor the capitalist, whose thrift provides the plant and machinery, to a state of slavery. The employment relation is a voluntary relation on all sides and no one of the three elements owes any servitude to either or both of the other two. There is no obligation on either management or capital to afford employment to particular laborers, nor any obligation on the laborers to engage in any enterprise, but *it is of the first importance if the three parties at interest unite in industry that everything should be done by each to promote loyalty, efficiency and agreeableness in their relations.*

To this end many employers have embarked on one or several enterprises generally spoken of as welfare work. This may consist in the organization of athletic contests, theatrical performances, picnics, etc., etc., and to which generally the employer may well limit his activity to assisting in the organization, leaving the management and continuation entirely with the employees. In its more serious aspects, in addition to a sustained effort to secure continuity of employment and the education and advancement of the men, schemes of insurance and of pensions, savings funds, loan provisions, capital securities purchases, etc., have been developed along various lines. The first formal organization of this character appears to have been instituted on the Baltimore & Ohio on May 1, 1880. It was largely the creation of Dr. William T. Barnard, who brought great enthusiasm to the service, and gave careful study to the practices abroad and to their application here. He was a pioneer in a service of great beneficence. Such efforts merit success to the extent that they are sympathetically co-operative and strengthen the impulses of self-help; their dangers lie in the direction of paternalism and weakening the motives for initiative and thrift.

Protection Against Five Major Hazards

Our company has endeavored to secure to its employees a considerable measure of protection against the *five major hazards of life; that is, against sickness, accident, unemployment, superannuation, and the distress in which the family may be involved by the death of its head.* During the year 1924 the following benefits were paid:

Death claims	$159,512.44
Health claims	65,720.22
Accident claims	4,804.29
Accidental death and dismemberment claims	3,600.00
Total and permanent disability claims	5,882.76
Unemployment claims	2,702.86
Pensions	104,128.25
Total	$346,350.82

The health, accident and disability premiums are paid by the employees; the unemployment and pension payments are borne by the company; the life insurance premiums are about equally divided. In all, under this group insurance plan, nearly $800,000 has been paid to employees or their families at the time when this relief was most needed.

The first of the large Metropolitan Life Insurance Company's contributory contracts handled under the present system became effective on employees of the D. & H. early in 1922. This one company has now in force over 1900 group contracts, for a total of over $860,000,000 of insurance. Over 95 per cent of the total group insurance is on a contributing basis. There is no doubt but that the employees are more appreciative of an insurance plan in which they have a voice and in which they share the cost.

Unemployment Insurance

So confident did we feel of being able to maintain satisfactory relations with our men that we instituted a plan of unemployment insurance, defining unemployment as a man having to seek a new employer because of the lack of need for his services or because of his own misconduct. Last year, out of 6,672 eligible for benefits under this plan, we discharged no man on account of lack of work and only 37 men because of misconduct. I submit that this record speaks volumes for the sweet reasonableness of all parties.

For five years, under the supervision of a most competent and interested officer, we have conducted a sustained campaign for the avoidance of accidents. In July our principal shop at Colonie was visited by Dr. Robert L. Browning, of the American Red Cross. Dr. Browning said that during the past year he had visited practically every large railroad shop in 32 states. Nowhere had he found a record that excelled or even equaled that held at Colonie. It was, he said, "the safest shop in America." The fact that in 17 consecutive months no one of the car department employees had suffered a reportable injury he credited largely to the activities of the employees themselves. You will have noted the confirmation in the very small loss of work we experience through accidents. A decreasing loss of time through sickness, I regret to say, cannot be so favorably regarded. That much can be accomplished may be inferred from the experience of one of the Southern railroads, where, as a reward of five years' effort, the loss of time by employees, due to attacks of malaria, was reduced by 39 per cent.

If I were to be asked why, in view of this, which indicates good labor relations, we have so much turmoil in the employment world, I should be inclined to attribute it to *failure in leadership and to feel that this was true of the leaders in political and industrial life and in organized labor.*

Growth of Population

Humanity has before it some problems of vast and somber import. One of these, directly influencing unemployment, is the growth of population.

I know of no more striking statistical graph than the history of this growth. Referring to Great Britain, a country about which we have much information and whose political boundaries are unchanged, from 1066, the time of the Norman conquest, to 1801, the time when the first census was taken, the population increased from 1,500,000 to 8,892,536 (493 per cent in 735 years). But during the 19th century the population increased from 9 to 33 millions, or 266 per cent in 100 years, and this notwithstanding a considerable drain because of emigration. And so for the whole of the white race; whereas, the close of the Napoleonic wars they numbered barely 200 millions, at the close of the World War they numbered more than 850 millions. Should this rate of increase be maintained, we shall, at the end of this century, find many more white people in the world than there are now people of all races combined.

In 1798 Malthus, having made an adequate collection of data and having submitted these data to thorough examination, published his book on the population problem, an original and comprehensive study. The contention of Malthus was that the additions to population would not maintain the average of previous production and that in consequence, universally and at all times, this limitation had checked the increase of population and this because, while the supply of land is limited, the supply of capital and laborers may increase indefinitely. Much as Malthus has been abused, his thesis has never been successfully controverted.

Excluding the polar regions the land area of the world is about 33,000 million acres. Taking 40 per cent as cultivatable gives 13,000 million acres. Assuming that 2.5 acres are necessary to the supply of one person, the world's possibility of population would be 5,200 millions —so that, we are told, in a hundred years, that is, in the time of our grandsons, were there in the meantime no alleviating factors, the end will have been reached.

Raw Material Supply

As one engaged in transportation what I have to suggest is that the limit of population may be fixed, not as Malthus suggested, by the food supply, but rather by the supply of raw material of industry. For myself, I do not look to see any radical change in our industrial organization but it is illuminating to realize that even were capitalism swept away and industry dominated by organized labor, by guild socialism, or by state socialism the essential features of industry—the factory system and the division of labor—must remain untouched, and to them a supply of raw material is as essential as is a supply of food to human existence.

Our increased population was brought into being, and is sustained, by our development of power and machine tools. In this development the great stress has been borne by iron. The production of pig iron on a large scale began as a result of the efforts of the Darbys toward the close of the 18th century. But iron is a substance that is attacked by the oxygen of the air and destroyed by rust. Losses by corrosion must be primarily a function of the total stock in existence and not one of annual production. The best figures available indicate that 40 per cent of the world's present annual production is now required to replace the depletion of the total stock in the same period of time. It would be interesting to pursue this and analogous matters at greater length. It is at least possible that in other fields than in food supply we shall find factors limiting the growth of population.

Quality of Leadership

The success with which we meet these and similar problems will depend upon the quality of our leadership. The politicians have made the idea of compromise not only respectable but have attributed to it a certain virtue, successfully concealing the fact that compromise is a confession of an inability or unwillingness to think a thing out. The leaders who resort, upon principle or as a practice, to compromising, to taking the easiest way, to expediency, to surrender of principles, can do us nothing but harm. There is a lesson in this respect to be drawn from the strictures of Hallam ("Constitutional History of England"), covering a century of the experience of England:

> "The reproach of servility and patient acquiesence under usurped power falls not on the English people, but on its natural leaders. We have seen, indeed, that the House of Commons* * * occasioned more trouble, even to Henry VIII, than his compliant nobility. They yielded to every mandate of his imperious will; they bent with every breath of his capricious humor; they are responsible for the illegal trial, for the iniquitous attainder, for the sanguinary statute, for the tyranny which they sanctioned by law and for that which they permitted to subsist without law.
>
> " * * * We trace the noble statesmen of these reigns concurring in all the inconsistencies of their revolutions, supporting all the religions of Henry, Edward, Mary and Elizabeth; adjudging the death of Somerset to gratify Northumberland, and

of Northumberland to redeem their participation in his fault; setting up the usurpation of Lady Jane, and abandoning her on the first doubt of success, constant only in the rapacious acquisition of estates and honors, and in adherence to the present power."

Does not this apply, *mutatis mutandis*, to the trimmers among the leaders of industry today in their several capacities, and does not this mean that while the race can, if it has the moral courage, character and wisdom, dictate its own future, it can only do so through the sagacity and fortitude with which it selects and sustains its leaders? *Efficiency of administration depends not only on industry and method, on grasp of principle and attention to detail, but also on the rarer powers of inspiration and command, the spirit of direction. What we must look for in leadership is men who are farsighted, clear-headed and close-fisted.** Unless we find them, and finding give them our support, we shall, like the blind led by the blind, perish in the ditch.

*In the discussion Mr. Loree defined the term "close-fisted" as using the available resources to the best possible advantage—avoidance of waste, spending money, for instance, with the greatest care and only in the way it will produce the very best possible results.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading continued to gain in the week ended August 22, when it amounted to 1,080,107 cars, an increase as compared with the corresponding week of last year of 97,347 cars and as compared with 1923 of 10,192 cars. Increases as compared with last year were shown in all districts except the Central Western and in all classes of commodities except grain and grain products and livestock. The largest increase was in coal loading, which amounted to 201,095 cars, or 40,828 cars more than in the corresponding week of last year and 1,722 cars more than in 1923. Miscellaneous loading, which amounted to 392,643 cars, also showed an increase of 34,715 cars. As compared with 1923 decreases were shown in the Eastern, Allegheny and Northwestern districts. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

REVENUE FREIGHT CAR LOADING—WEEK ENDED AUGUST 22, 1925

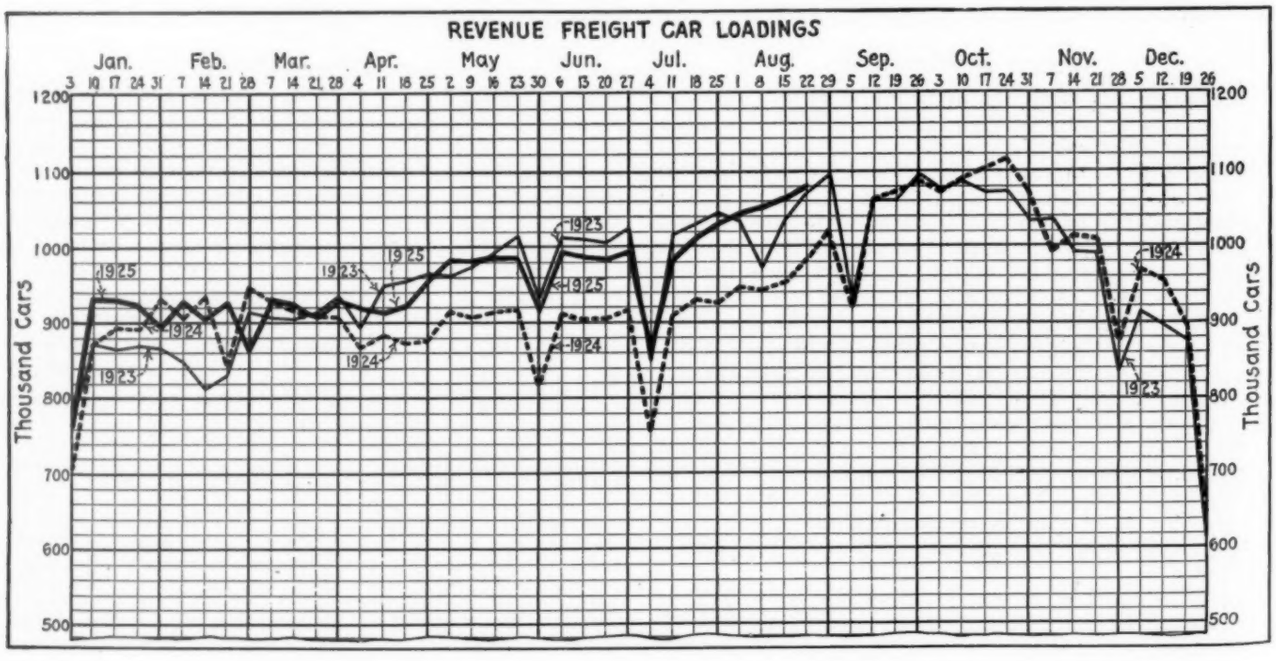
Districts	1925	1924	1923
Eastern	255,254	225,450	257,140
Allegheny	217,682	198,320	231,044
Pocahontas	55,660	46,292	43,864
Southern	150,429	139,816	136,173
Northwestern	166,441	141,904	175,273
Central Western	161,867	162,221	156,751
Southwestern	72,774	68,757	69,670
Total Western	401,082	372,882	401,694
Commodities			
Grain and grain products	55,203	61,532	54,937
Livestock	29,846	34,174	35,865
Coal	201,095	160,267	202,817
Coke	9,808	7,230	13,514
Forest products	71,151	69,290	77,958
Ore	60,455	48,412	77,945
Mdse., l.c.l.	259,906	243,927	244,034
Miscellaneous	392,643	357,928	362,845
Total	1,080,107	982,760	1,069,915
August 15	1,064,793	953,408	1,039,938
August 8	1,051,611	941,407	973,750
August 1	1,043,063	945,613	1,033,466
July 25	1,029,603	926,309	1,041,415
Cumulative total, 34 weeks	32,425,036	30,533,249	32,063,306

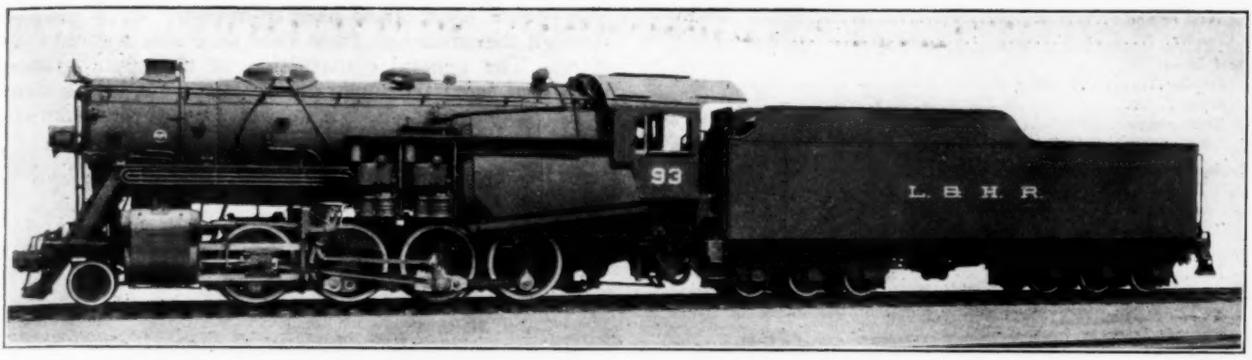
The freight car surplus for the second week in August averaged 217,190 cars, a decrease of 21,284 cars as compared with the preceding week. This included 62,058 coal cars and 115,912 box cars.

For the same period the Canadian roads had a surplus of 37,720 cars, including 30,500 box cars.

Revenue car loadings at stations in Canada for the week ended August 22 totaled 53,595 cars, an increase of nearly 2,000 cars over the previous week and an increase of 2,719 cars over the same week last year. Coal loadings were back to normal and most of the other commodities showed advances. Grain loading was, however, lighter in both the Western and the Eastern divisions. The cumulative total from the beginning of 1925 shows a decrease of 66,546 cars of grain as compared with the same period in 1924.

	Total for Canada			Cumulative totals to date	
	Aug. 22,	Aug. 15,	Aug. 23,		
Commodities—	1925	1925	1924	1925	1924
Grain and grain products	3,039	3,602	3,857	186,751	253,297
Live stock	2,503	2,613	2,646	75,059	73,506
Coal	4,919	3,291	4,779	113,130	165,017
Coke	240	225	207	9,174	7,678
Lumber	4,130	3,743	3,605	119,334	122,631
Pulp wood	1,958	2,017	1,648	97,611	98,298
Pulp and paper	1,903	1,893	1,929	68,694	67,315
Other forest products	2,162	2,511	2,333	97,736	90,582
Ore	1,682	1,633	1,577	45,880	41,676
Merchandise l. c. l.	15,984	16,056	15,134	508,639	484,532
Miscellaneous	15,075	14,332	13,161	403,497	391,264
Total cars loaded	53,595	51,916	50,876	1,725,505	1,795,796
Total cars received from connections	32,522	32,658	28,310	1,115,826	1,079,840





Consolidation Type of Locomotive for the Lehigh & Hudson River, with a Rated Tractive Force of 71,500 lb.

Consolidation Type Locomotive for Lehigh & Hudson River

Rated tractive force at 85 per cent cut-off is 71,500 lb.— Grate area 100 sq. ft.

THE Lehigh & Hudson River, a road operating nearly 100 miles of line in northern New Jersey and southeastern New York, has recently received from the Baldwin Locomotive Works, Philadelphia, Pa., four Consolidation type locomotives which are notable because of their weight and hauling capacity. This line connects with the anthracite carriers and from one-third to one-fourth of the traffic which it handles consists of hard coal. Heretofore, this traffic has been hauled chiefly by Consolidation type locomotives having a total weight of about 190,000 lb., and by two classes of Mikado type locomotives, the first built by the Baldwin Locomotive Works in 1916 and the second, by the same builders, to United States Railroad Administration designs in 1918. The principal dimensions of these two Mikados, and of the new Consolidations, are given in the following table:

Type	Date	Cylinders, Inches	Drivers, Inches	Steam press, lb.	Grate area, sq. ft.	Water heating surface, sq. ft.	Super-heating surface, sq. ft.	Weight on drivers, lb.	Weight total engine, lb.	Tractive force, lb.
2-8-2	1916	25 by 30	56	190	100	4,155	964	212,700	285,400	54,200
U.S.R.A.	1918	26 by 30	63	200	66.7	3,777	945	221,500	290,800	54,800
2-8-0	1925	27 by 32	61	220	100	3,607	924	283,800	309,700	71,500

The earlier Mikados and the new Consolidations were designed to burn a mixture of buckwheat, anthracite and soft coal, hence their large grate areas as compared with the U. S. R. A. Mikados, which were designed for soft coal only. The boilers of the 1916 and 1925 designs both have fireboxes of the modified Wootten type, without combustion chambers. The grates are of the same length and width in the two types, and the grate castings interchange. The heating surface and grate area of the Consolidation type, in proportion to the tractive force exerted, are less than in the Mikado, but this is no special handicap in view of the slow-speed drag service in which the Consolidations are used. The total weight of these locomotives is 309,700 lb., of which 283,800 lb. is on the drivers and 25,900 lb. on the front truck. The diameter and stroke of the cylinders is 27 in. by 32 in., and the diameter of the driving wheels, 61 in. With 220 lb. steam pressure and 85 per cent cut-off, a tractive force of 71,500 lb. is developed.

Boiler and Accessories

The boilers of the new Consolidations are of the straight-top type, with tubes 15 ft. 6 in. long. A superheater of 50 elements is applied. The firebox contains a brick arch supported on six 3-in. tubes, and there is a full installation of flexible staybolts in the water spaces. The boiler is fired by a Duplex stoker.

The steam distribution is controlled by 14-in. piston valves, which are set with a travel of 6½ in. and a lead of 3/16 in. The steam lap is 1 in. and the exhaust clearance zero. The Walschaert valve gear is applied and is controlled by a Ragonnet Type B power reverse.

These locomotives, although designed to traverse curves as sharp as 18 deg., have flanged tires on all the wheels. The leading truck is of the constant resistance type, with rolled steel wheels.

The tender is long with a low center of gravity and a rectangular tank having capacity for 15,000 gal. of water and 16 tons of coal. The trucks of the six-wheel type and the frame is a Commonwealth steel casting in one piece.

This is an interesting application of the Consolidation type to special service conditions where the 2-8-0 wheel arrangement can be efficiently used. The locomotives represent in weight and hauling capacity the maximum permitted by the clearance and wheel load limitations on this road. Further particulars concerning dimensions, weights and proportions are given in the following table:

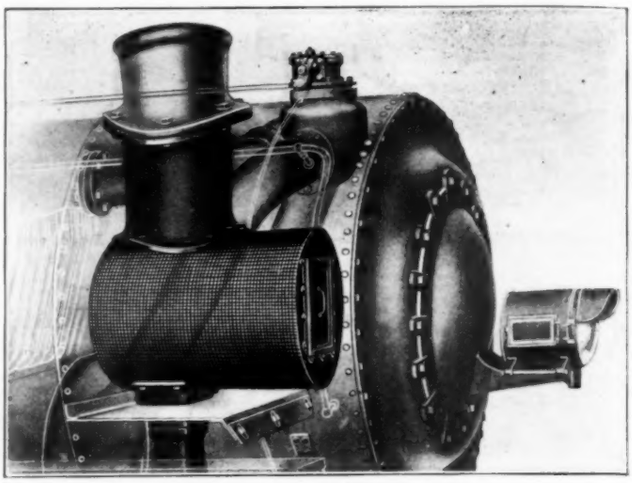
Railroad	Lehigh & Hudson
Type of locomotive	Consolidation
Service	Freight
Cylinders, diameter and stroke	27 in. by 32 in.
Valve gear, type	Walschaert
Valves, piston type, size	14 inches
Maximum travel	6½ inches
Outside lap	1 inch
Exhaust clearance	None
Lead in full gear	3/16 inch
Weights in working order:	
On drivers	283,800 lb.
On front truck	25,900 lb.

Total engine	309,700 lb.
Tender	266,500 lb.
Wheel bases:	
Driving	17 ft. 6 in.
Rigid	17 ft. 6 in.
Total engine	27 ft. 6 in.
Total engine and tender	74 ft. 10¾ in.
Wheels, diameter outside tires:	
Driving	61 inches
Front truck	33 inches
Trailing truck	None
Journals, diameter and length:	
Driving, main	12 in. by 13 in.
Driving, others	11 in. by 13 in.
Front truck	6½ in. by 12 in.
Trailing truck	None
Boiler:	
Type	Straight top
Steam pressure	220 lb.
Fuel, kind	Hard and soft coal mixed
Firebox, length and width	126⅛ in. by 114¼ in.
Height mud ring to crown sheet, back	65 inches
Height mud ring to crown sheet, front	84¼ inches
Arch tubes, number and diameter	3, 6 inches
Combustion chamber length	None
Tubes, number and diameter	50, 5½ in.
Flues, number and diameter	240, 2¼ in.
Length over tube sheets	15 ft. 6 in.
Grate area	100 sq. ft.
Heating surfaces:	
Firebox	272 sq. ft.
Arch tubes	46 sq. ft.
Tubes and flues	3,289 sq. ft.
Total evaporative	3,607 sq. ft.
Superheating	924 sq. ft.
Comb. evaporative and superheating	4,531 sq. ft.
Special equipment:	
Brick arch	Yes
Superheater	Yes
Feedwater heater	No
Stoker	Yes
Booster	No
Tender:	
Style	Six wheel type
Water capacity	15,000 gal.
Fuel capacity	16 tons
General data estimated:	
Rated tractive force, 85 per cent	71,500 lb.
Cylinder horsepower (Cole)	2,886
Weight proportions:	
Weight on drivers ÷ total weight engine, per cent	91.6
Weight on drivers ÷ tractive force	3.92
Total weight engine ÷ cylinder hp.	107.1
Total weight engine ÷ comb. heat. surface	68.2
Boiler proportions:	
Comb. heat surface ÷ cylinder hp.	1.57
Tractive force ÷ comb. heat. surface	15.78
Tractive force × dia. drivers ÷ comb. heat. surface	9.62
Cylinder hp. ÷ grate area	28.8
Firebox heat. surface ÷ grate area	2.72
Firebox heat. surface, per cent of evap. heat. surface	7.54
Superheat. surface, per cent of evap. heat. surface	25.8

Security Unit Locomotive Spark Arrester

A DEVICE designed to prevent the emission of sparks from locomotives and reduce the cost of front-end inspection and maintenance work has been placed on the market recently by Mudge & Company, Chicago. It is called the Mudge Security Unit locomotive spark arrester. Special features of the design are the increased netting area which permits a larger exhaust nozzle, thereby reducing back pressure, possibility of complete inspection without removal, easy removal and reapplication when necessary, and the elimination of patching joints, always a potential source of trouble.

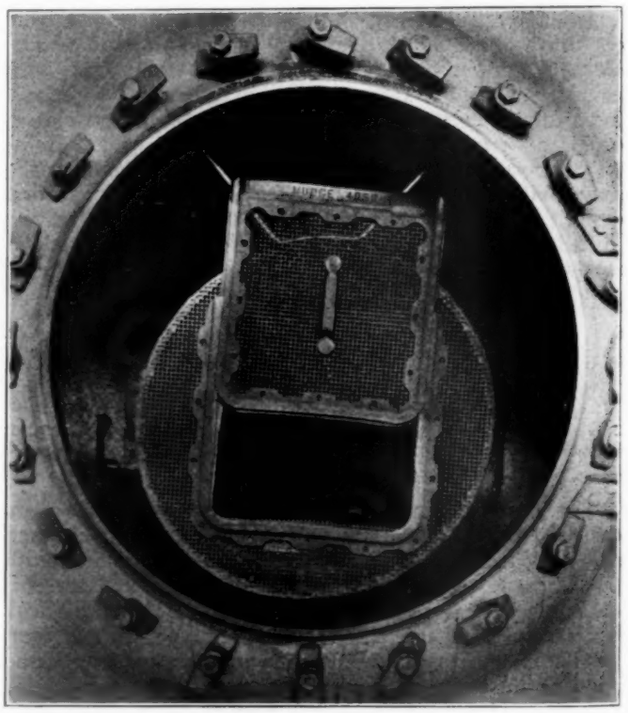
The new spark arrester, shown in the illustrations, is built as a unit, welded together and bolted to an angle iron frame apart from the front-end. It is installed through the smokebox front door as a unit without difficulty. The general construction of the spark arrester is evident from the illustration. It is built in the shape of a cylinder small enough to pass through the front-end



Phantom View, Showing Construction and Application of Mudge Security Unit Spark Arrester

door. The front and rear ends and seam of the spark arrester are reinforced by suitable angles bolted to the netting. The bottom of the arrester is bolted through a liner to the saddle casting, the top being bolted with a liner to the stack extension.

All patching of joints is eliminated in the Mudge Security Unit spark arrester as it is entirely independent of any other part of the front-end. There is no interference with superheater or front-end throttle and it permits of complete front-end inspection without removal.



Front View, Showing Spark Arrester as Applied to One of the Three-Cylinder Locomotives Built Within Recent Months

Is Interstate Commerce Commission an "Economic Dictator"?*

Hoch-Smith Resolution, as interpreted by some, empowers it to so shift freight rate burden as to relocate industry

By Kenneth F. Burgess
General Solicitor, Chicago, Burlington & Quincy Railroad

THOSE of us who have had to do with any branch of public utility law in the United States during the past decade have witnessed great changes in the principles which control public utility regulation. In the railroad field we have seen the courts successively sustain new principles embodied into our statutory law. The Interstate Commerce Commission has been upheld in its finding that low state rates may constitute a revenue discrimination against interstate commerce.[1] It has been held that by changing the divisions of joint rates, the Commission may relieve the financial exigencies of an impoverished railroad through a diversion of revenue from its more prosperous connections.[2] We have seen sustained the act of Congress which declares that one-half of the annual earnings of a railroad corporation in excess of six per cent of the value of its property may be "recaptured" by the federal government and the remaining half be impressed with a trust restricting its use to particular purposes.[3]

The impending break-down of the whole transportation machine at the termination of federal control led to a public recognition of the necessity for reasonably adequate earnings. The Transportation Act, 1920, sought to provide therefor. In the case of local utilities, the disastrous effect of too much regulation resulted in a widespread recognition of the desirability, in the public interest, of permitting a return which would be an incentive to adequacy of service, and to the extension and improvement of service.

In the railroad field, the Transportation Act, 1920, had as its key-note the maintenance of an adequate system of transportation in the interest of the people of the United States considered as a whole. To assure such a system, the Interstate Commerce Commission was directed to initiate rates which would, for carriers as a whole within such rate groups as the commission might designate, yield, as nearly as may be, a fair return on the value of the combined property of the carriers within the group. The commission was directed to define this "fair return," which it has done by designating five and three-quarters per cent.

All of this new legislation has been tending rapidly to the proposition that public utility rates must be made to cover the cost of the service and to yield a fair return on the value of the property employed. To protect against infringement of constitutional rights, the courts had already laid down the principle that rates lower than the cost of the service, together with a fair return, resulted in confiscation. But this was not a policy of legislative or administrative rate making, for there the test was "reasonableness," with all its varied meanings. Now we were confronted with a legislative declaration that, at least in the aggregate, the test of reasonable rates was the cost of service, plus a fair profit.

This was indeed the logical development of public utility regulation. There were only two alternatives, if public ownership were to be avoided—one a government guarantee of earnings to be paid out of the public treasury; the other, a legislative direction to administrative authorities to transfer the burden from the tax payer to the rate payer and to make rates upon a cost of service principle.

The Interstate Commerce Commission was called upon to administer this law at a time when the post-war depression laid its heavy hand upon business enterprise. Economic depression, declines in traffic and relocation of industry seriously disturbed the results which the commission announced it would expect from the rates which it initiated. The insistent demands of agriculture for reductions in freight rates on its products were partially met with a consequent serious decline in net earnings to the western carriers. But throughout the four-year period following the enactment of the Transportation Act, the effort clearly was to conform to some extent at least to the cost of service principle as contained in the congressional mandate.

The Hoch-Smith Resolution

In the closing days of the last session of Congress, however, there was passed a joint resolution approved by the President on January 30, 1925, which is thought by some to have engrafted an entirely new principle into our system of railroad regulation. It is popularly known as the Hoch-Smith resolution. In it Congress declares that—and I quote from the resolution—"the true policy in rate-making to be pursued by the Interstate Commerce Commission in adjusting freight rates (is) that the conditions which at any time prevail in our several industries should be considered insofar as it is legally possible to do so, to the end that commodities may freely move." The commission is directed to make a thorough investigation of the rate structure and to readjust freight rates, giving due regard—and again I quote from the resolution—"to the general and comparative levels in market value of the various classes and kinds of commodities as indicated over a reasonable period of years to a natural and proper development of the country as a whole, and to the maintenance of an adequate system of transportation." The joint resolution also directs that "in view of the existing depression in agriculture," the commission should make such rate changes as would promote the freedom of movement of the agricultural products at the lowest possible lawful rates.

This joint resolution has been variously interpreted.

*An address, entitled "An Economic Measure for Railroad Rates," delivered before the Section of Public Utility Law of the American Bar Association, at Detroit, Mich., on August 31.

[1] Railroad Commission of Wisconsin v. Chicago, Burlington & Quincy Railroad Company, 257 U. S. 563.

[2] New England Divisions Case (Akron, C. & Y. R. Co. v. United States), 261 U. S. 184.

[3] Dayton-Goose Creek R. Co. v. United States, 263 U. S. 456.

It has been described as "economic rate making," and as establishing "value of the service to the shipper" as the test of the public utility charges. If it really means either of these things, it is indeed a serious departure from our theory of public utility regulation as it has existed up to this time. Under this view, it not only means that the commission has been made the traffic manager of the railroads, entrusted with the duty of making all rates in the first instance, but also that an agency has been set up as the economic dictator of this country's progress. It is said by some students that the joint resolution contemplates such a relocation of industry throughout the United Sates as will best promote the national efficiency—that the relative prosperity of different industries shall be weighed from time to time and the freight rate burden shifted from the less prosperous to the more prosperous—and that any adverse effect of the law of supply and demand upon a particular industry shall be counterbalanced by reductions in freight rates. On the other hand, should some form of industrial enterprise be found by the commission to be absorbing an undue portion of the national wealth, then it is to be curbed by increasing the freight rate burden which it bears. All this, it is said, the commission should in effectuating the will of Congress, subject only to the injunction that the gross proceeds of all these rates shall be sufficient to maintain an adequate system of transportation. In other words, it is said that the resolution means that rates shall be made according to what, in the judgment of the commission, the traffic can bear, or, as it has been frequently stated, the rates of a public utility should vary in relation to the ability of the consumer to pay.

So long as this joint resolution remains as the expressed will of Congress, there will be much discussion as to what it means, how it should be interpreted, and what action the regulatory authorities should take thereunder. It is of inerest here to know that the Interstate Commerce Commission a week hence in Chicago will open a series of hearings for the purpose of reexamining the rate structure of the country in conformity with the direction of Congress. The notice assigning this case for hearing expressly provides that among the subjects with which the commission will concern itself are the relative price levels and economic conditions prevailing within the several industries whose products move in interstate commerce by railroad.

No one can determine at this time, even to his own satisfaction, just what effect this joint resolution will have upon our system of public utility regulation. If it shall finally be held that it adds anything new to our present system and effects substantial changes in our law as it previously existed, it does seem reasonably clear that it means that the commission shall measure rates, insofar as it can, by the yard-stick which has been popularly described as "the value of the service to the shipper." Those who hold to the view that this is the effect of the resolution assert that the Supreme Court of the United States has recognized that the value of the service to the shipper is a proper test to be applied in public utility rate making. They refer to *Smythe* v. *Ames,* 169 U. S. 466, decided in 1898, where, at page 547, the Supreme Court said:

"What the company is entitled to earn is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth."

They also refer to *Northern Pacific Ry. Co.* v. *North Dakota,* 236 U. S. 585, where, at page 599, the Court said:

"There are many factors to be considered,—differences in the articles transported, the care required, the risk assumed, the value of the service * * *."

And again in *Darnell* v. *Edwards,* 244 U. S. 564, decided in 1917, where, at page 570, the Supreme Court recited that:

"The nature and value of the service rendered by the company to the public are matters to be considered."

These dicta, they say, gave judicial sanction to the proposition that the rates of a public utility may lawfully be measured by this yard-stick.

Is Commission Dictator of Industry?

It is a curious anomaly that in 1910 some of the western railroads themselves advanced this theory in justification of some increases in freight rates which they were seeking to secure. The railroads contended that the increase in the general level of commodity prices above the low point of 1896 had resulted in an increase in their cost of service which they could only meet through an increase in their rates, and also that the traffic of the country could well afford to pay such increased rates. Upon this basis they sought to justify the "reasonableness" of the advanced rates. But the shipping interests of the west appeared in opposition to the proposition that rates should be made in relation to the value of the service to the shipper and the commission disapproved of the principle.

In an opinion by Mr. Commissioner Lane, in the 1910 *Western Advance Rate Case,* 20 I. C. C. 307, at 350, the commission said:

"Rates being made upon this theory, the function of the traffic manager is that of a statesman; he determines zones of production and consumption, the profits of the producer and the cost to the consumer; he makes his rates, if he so pleases, to offset and nullify the effect of import duties and determines the extent and character of our foreign markets.

"To make rates for transportation based solely upon the ability of the shipper to pay those rates, is to make the charge for transportation depend upon the cost of production rather than upon the cost of carriage—to measure a public service by the economies practised by a private shipper. This necessarily gives to the carrier the right to measure the amount of profit which the shipper may make and fix its rate upon the traffic manager's judgment as to what profit he will be permitted. This theory entitles the railroad to enter the books of every enterprise which it serves and to raise or lower rates without respect to its own earnings, but solely with respect to the earnings of those whose traffic it carries. This is not regulation of the railroads by the nation, but regulation of the industries and commerce of the country by the railroads."

Since 1910, the cost of service principle of rate making has clearly been the principle back of regulatory legislation in respect to the railroads. The valuation of railroads, the regulation of security issues and the supervision of railroad accounting, have all been advocated as necessary steps in the scientific application of the cost of service principle. Much progress was made in this direction until the deflation, which followed the termination of hostilities abroad and which bore most heavily upon the agricultural interests, led to the demand that the freight rate burden in this country be so readjusted as to promote the national efficiency. At this stage of the development, the shipping interests seem to have reverted to the principle which they so bitterly opposed fifteen years ago. Those who advocated the passage of this Joint Resolution undoubtedly sought legislative sanction of this value of service principle which the commission in 1910 had described as being "not regulation of the railroads by the nation, but regulation of the industries and

commerce of the country," this time not "by the railroads," but by the Interstate Commerce Commission.

Cost versus Value of Service

Meanwhile the courts do not seem to have receded from the proposition that the rates, even on a particular kind of traffic, must be based essentially upon the cost of the particular service. In *Banton* v. *Belt Line Ry. Co.*, decided by the Supreme Court of the United States May 25, 1925, the court passed upon a controversy involving the validity of an order of the New York Public Service Commission prescribing a five-cent joint street-car fare in New York City and requiring the issuance of transfers. It was sought to defend the order in respect to transfers on the proposition that the additional expense involved would not exceed the additional revenue which would be derived from transfer passengers. In an unanimous decision the court condemned this order and stated:

"The state is without power to require the traffic covered by the fare enjoined to be carried at a loss or without substantial compensation over its proper cost. * * * It would be arbitrarily unjust to charge to that class of business only the amount by which the operating expenses were, or would be, increased by adding that to the other traffic carried. * * * While the carrier has no constitutional right to the same rate or percentage of return on all its business, the state may not select any class of traffic for arbitrary control and regulation. Broad as is its power to regulate, the state does not enjoy the freedom of an owner."

This is a reiteration of the principle which was laid down in the *North Dakota Lignite Coal Case*[1] and the *West Virginia Passenger Case*[2], to the effect that due process of law is denied and property is taken without just compensation in the event the state requires the transportation of persons or particular property at non-compensatory rates, regardless of whether the burden be made up on other forms of traffic. These cases have squarely laid down this proposition and, of course, have as their back-ground the cost of service principle in rate making. They carried to a logical conclusion the rule laid down some years before in the *Cotting Case* involving regulation of the Kansas City Stock Yards[3]. Cost of the service, together with a profit, constitutes the minimum rate basis which public authority may impose. Rates may not lawfully be made below this level even though it be said that the value of the service would justify it. As a matter of fact, we all know that the value of every public service so tremendously exceeds what its patrons pay for it that they can never afford to forego good service in order to obtain lower rates. As was stated three years ago before this section: "The value of the service is only completely demonstrated when there is difficulty in obtaining it; under such conditions it soon develops that cost is not the material factor. The only question is how to obtain service."[4]

On principle, it would seem that the dicta in other decisions to the effect that the "value of the service" is a proper test, do not mean the same thing that the proponents of this new rule of rate making assert for them. The value of the service to the shipper or other consumer, in the case of public utility regulation, might well be considered in ascertaining whether or not the service which the public utility was rendering, and for which it undertook to make a charge, was really a service for the benefit of the public and which the public required, and demanded—that is, whether it was a service of value to the public. For a public utility to insist upon furnishing a service which the public did not want or need, and then to undertake to measure its charge in respect thereto upon a cost of service principle, might well be a matter regarding which the public should have something to say. But when the public demands and requires the continued performance of a particular service, it seems that a case for the violation of the Fifth or Fourteenth Amendments, respectively, would be made out upon a showing that the rates required did not cover the cost of service plus a fair profit. The judicial test in respect to the infringement of constitutional rights clearly seems to be the cost of service test. If the Hoch-Smith resolution is to be interpreted as a declaration by Congress that the cost of service principle is to be abandoned and in its stead that there should be set up a value of the service principle, it would seem that the legislation would run foul of these constitutional safeguards as they have been interpreted by the courts. Within the decisions it would be no sufficient answer to say that the aggregate revenue from all operations should be sufficient to maintain an adequate system of transportation. This, however, is a matter upon which the courts ultimately may be called upon to pass.

It may be suggested that if "the value of the service to the shipper" is to measure the extent of the rate to be paid on the product of a particular industry, the principle must apply as well when the industry is prosperous as when it is depressed. Similarly, it would seem to be a corollary that in period of general prosperity the fair rate of return to carriers should be increased so as to correspond to the return to industry generally. Under this theory, perhaps the carriers at such times should be permitted to accumulate earnings in excess of their immediate needs so as to enable them to survive when the cycle of prosperity ends and the value of their service, measured by this standard, declines. In other words, if freight rates are to vary according to the ability of the shipper to pay, there seems to be no logic in restricting the carrier to a "fair return" of 5¾ per cent at a time when industry and agriculture may be earning, 10, 15 or 20 per cent. Neither is there any logic, at such a time, in requiring the railroad corporation to relinquish to the federal government one-half of its earnings in excess of 6 per cent on the value of its property. That requirement was upheld upon the theory that, at least in the aggregate, the cost of service principle was to measure the rates which the Interstate Commerce Commission should initiate—not upon a theory that railroad regulation should undertake to counteract general economic tendencies, with the commission entrusted with the duty of determining what those tendencies are and how soon they will change.

Is Industry to Be "Redistributed?"

In the meantime, the commission is proceeding with the administration of the rule of the joint resolution. It is calling upon shippers and carriers alike, and the state commissions as well, to aid it in determining what rate readjustment shall be made so that commodities may freely move, that there may be "a natural and proper development of the country as a whole," and that proper consideration shall be given in rate making "to the conditions which at any given time prevail in our several industries." A well known economist, testifying recently before the commission, when asked to state his opinion as to the fundamental principles that must necessarily underlie such a scheme of rate making, replied:

"I should ask myself what effect a change in freight rates and a readjustment of rates relative to each other would have upon the national output, upon national pro-

[1] Northern Pacific Ry. Co. v. North Dakota, 236 U. S. 585.
[2] Norfolk & Western Ry. Co. v. Conley, 236 U. S. 605.
[3] Cotting v. Kansas City Stock Yards Co., 183 U. S. 79.
[4] Rate-Making Powers under Commission Laws, address by Nathaniel T. Guernsey, Reports of American Bar Association, Vol. XLVII, page 637 at 650.

duction. Here we have forty million people working a certain amount of land with our national resources and capital. Obviously, the problem is to get the largest amount of production out of that with a minimum of disagreeable effort. If a readjustment of freight rates will redistribute industry, or enable industry to function more efficiently, so we could get a larger output per person employed or per unit of capital employed, then it ought to be made if it can be done without destroying so many vested interests as to do violence to the conduct of private property.

"That would be the test in my opinion. Can you redistribute industry—because that is what it comes to in the last analysis—in such a way as to enable it to function more efficiently by a readjustment of freight rates?"

If the economist is right, if this theory of rate making means that the industrial geography of the United States is to be changed, if rates are to be so readjusted as to relocate industry from one city to another, then indeed the joint resolution does result in an entirely new system of railroad regulation. If it is intended to counteract the influence of the law of supply and demand upon the price of particular commodities, if it is intended to curb monopoly through a readjustment of freight rates,—if the value of the service to the shipper is to be a test of rate-making which the commission shall consciously undertake to apply—then we have outlined a most difficult problem for regulatory authority to undertake to solve. In these circumstances my mind turns to the closing paragraph of the 1924 edition of "The Elements of Railway Economics" by the late Sir William Acworth, where he refers to the statement of Rasselas who, after there were explained to him all the qualifications that went to the making of a philosopher, said, "Who, then, can be a philosopher?" By the same token, if these are the rules by which the Interstate Commerce Commission is to be required to make freight and passenger rates, we may all say, "Who, then, could be a member of the Interstate Commerce Commission?"

Tool Foremen Meet at Chicago

THE thirteenth annual convention of the American Railway Tool Foremen's Association was held on September 2 to 4 inclusive at the Hotel Sherman, Chicago. The opening address was made by H. T. Bentley, general superintendent of motive power and machinery of the Chicago & North Western, who commented on the importance of the work of railway tool foremen and pointed out the opportunity which they have of saving money for the railroads by providing more efficient tools with which employees in shops and enginehouses can work. Regarding co-operation between foremen and men, and the necessity of adopting practical suggestions from the workers, Mr. Bentley said:

"We have talked about co-operation for many years and in some cases it is possible that there has been some between foremen and men. In other cases we may have expected the co-operation to come mostly from the other fellow. If we are desirous of getting the best results we can learn a great deal from the men who are actually doing the work, and suggestions coming to us from them should be given careful consideration. In a number of cases we would find them worth while adopting. Never ridicule a man for making a suggestion which may appear impractical. Listen and discuss the subject with him so that he will not be discouraged and overlook an opportunity later of giving you something really helpful."

Following Mr. Bentley's address, the members of the Association were addressed by Charles Helm (C. M. & St. P.), president of the Association, who outlined the purposes of the Association. Secretary-Treasurer G. G. Macina (C. M. & St. P.), then read the secretary's report which indicated a healthy growth of the Association during the past year, the membership now totalling 125 paid up members from 60 representative railroads. The total receipts for the past year were $1,693 and disbursements $1,443. The feature of the opening session was the paper by C. A. Shaffer, general supervisor of shop machinery and tools of the Illinois Central, who discussed the subject "Machine Tool Equipment for the Toolroom." Mr. Schaffer spoke in part as follows:

"The tool department of any railroad shop should be adequate to maintain all tools used locally or under that shop's jurisdiction properly and economically, and in order to keep pace with improvements made in design, and the increased size of machinery and tools for handling modern locomotives, it is necessary that corresponding attention be given to the equipment for the maintenance of such tools. . . . It is believed that the necessity for manufacturing such tools as reamers, taps, drills, threading dies, etc., is diminishing and the possibilities for effecting savings in this line are very remote. This is due to keen competition among commercial manufacturers and the fact that several reputable concerns are now listing as standard such tools as were considered special a few years ago and were priced accordingly.

"There are many special time-saving tools and devices which had their origin and development in the railroad shop being manufactured and used today and which cannot be obtained elsewhere. These, together with forging and forming dies or other equipment of similar construction, give reason for a full compliment of machinery in the tool department of an up-to-date railroad shop."

Mr. Shaffer submitted three lists of machinery suitable for toolrooms engaged in (1) general system tool manufacturing and maintenance work in large shops, (2) maintenance work at medum sized shops, and (3) reconditioning tool work at smaller repair points. These lists of machines were suggested by Mr. Shaffer with the idea of encouraging discussion, and bringing out the kind and amount of machine equipment necessary in the three classes of shop mentioned to insure the most efficient and economical operation.

[A further report of the proceedings will appear in a subsequent issue of the *Railway Age*.—EDITOR.]

P. & A.

Paris-Boulogne Boat Train Derailed at Amiens—Wooden Cars, Gas Light and Consequent Conflagration Bring Large List of Casualties in Second Wreck in Week

The Reservoir at St. Jo., Tex., has a capacity of 135,000,000 gal.

Benefits of Better Water on M-K-T

Missouri-Kansas-Texas derives marked benefits from comprehensive efforts to provide suitable boiler supplies

By J. H. Davidson
Water Engineer, Missouri-Kansas-Texas, Parsons, Kan.

THE importance of supplying locomotives with boiler feed water of proper quality has been recognized on the Missouri-Kansas-Texas for a number of years and this important feature has been considered in the location of new supplies. As a result there are on this railroad many supplies of excellent quality requiring no treatment whatever. However, in some parts of the territory traversed, supplies of suitable quality are not available and corrective treatment is desirable.

Prior to 1916 various boiler compounds were used and a few treating plants using soda ash were constructed, but the results obtained were not entirely satisfactory. The first important step toward water treatment was made in 1916, when a lime and soda ash softening plant was constructed at Osage, Okla., and filtration plants at Fallis, Okla., and Smithville, Tex. In August, 1917, the position of water engineer was established under the direction of the chief engineer.

A systematic study of all conditions affecting water supplies was begun at this time with especial attention to quality. All analyses which had previously been made were studied and a great many additional analyses were carried out. Care was taken to secure samples for analysis under different conditions to allow for seasonal variations and thus determine the best and the worst as well as the average quality of water from each supply. While this study was being carried on, situations requiring immediate action were handled with proper attention to quality and quantity of supply, so that considerable progress was made in the improvement of supplies.

During a portion of the time that the railroads were under federal control, the M-K-T Lines were divided and this, for a short time, interrupted the program for water treatment. The work was actively resumed in 1920 and in April, 1921, a water softener was placed in operation at Oklahoma City, Okla. A year later the largest plant on the system, with a treating capacity of 50,000 gal. per hour and a storage capacity of 200,000 gal. of softened water in the treating tank, was placed in operation at Parsons, Kan. Locomotives operating between Parsons and Oklahoma City were now supplied with softened water at three terminals, Parsons, Osage and Oklahoma City, and at one intermediate point, Bartlesville, Okla., where water is furnished from a softener operated by the Santa Fe. The results obtained from these installations were so satisfactory that in the latter part of 1922 the construction of eight additional plants was begun and these were all in operation by February, 1923. Five of these plants are located on the Texas Central division, a branch line extending from Waco, Tex., to Rotan, where most of the water supplies are heavily impregnated with gypsum. These plants were designed by the water engineer and erected by company forces with the exception of steel settling tanks which were erected by contract. The other three plants, two of which were located in Oklahoma and one at Kansas City, Mo., were furnished and erected by the Graver Corporation.

Wherever possible, supplies insufficient in quantity, poor in quality or improperly located were replaced by good supplies. Notable examples are the reservoir at St. Jo, Tex., with a capacity of 135,000,000 gal. and a drainage area of 1,725 acres, which replaced three supplies of insufficient quantity and poor quality; and a drilled well 200 ft. deep at Grandview, Tex., which replaced two very unsatisfactory supplies and provided better spacing of stations. With these preliminaries out of the way, estimates were

prepared providing for sufficient water treating facilities so that all locomotive boilers would receive only raw water of such quality that no treatment is required, completely softened water, or water to which sufficient soda ash had been added to convert adherent scale-forming substances into soft slime. In arriving at a decision as to whether a complete lime and soda ash softener or a soda ash plant should be installed at a particular location, use was made of the A. R. E. A. formula for the value of one pound of scale-forming matter removed from feed water before entering the boiler. Eleven cents per pound was the figure used at the time these estimates were prepared and where the net annual saving, estimated by deducting operating costs from the gross savings, was 25 per cent or more of the investment required, a complete softener was recommended. There were, of course, exceptions to this rule which were controlled by other considerations. In submitting the estimates for approval emphasis was placed on the fact that the success of the program depended on the entire plan being carried out substantially as presented. Approval was promptly received.

Following the above plan, 24 complete lime and soda ash softeners and 52 soda ash plants were constructed. The contract for the 24 softeners was the second largest single contract ever let for similar equipment and the whole project, in number of water stations affected, was probably the largest ever undertaken by a railroad at one time. Specifications for the lime and soda ash softeners were prepared by the water engineer and the softeners were furnished and erected under contract by the Graver Corporation. They are designated as "Graver Type K" plants. They vary in capacity from 5,000 to 50,000 gal. per hour and are continuous, automatic, ground-operated, without filters. Three of the larger plants are provided with down-take agitation which is driven by a water wheel operated by incoming raw water. The other plants have a mixing chamber on top of the down-take. The settling tanks with one exception are of the flat-bottom, standpipe type, with a sludge collection system placed on bottom. This type of tank has proved entirely satisfactory and there has been no difficulty in the removal of sludge without excessive waste of water. The settling tanks are of sufficient height to deliver softened water by gravity to existing storage tanks. Five of the settling tanks provide storage space for softened water in addition to settling space.

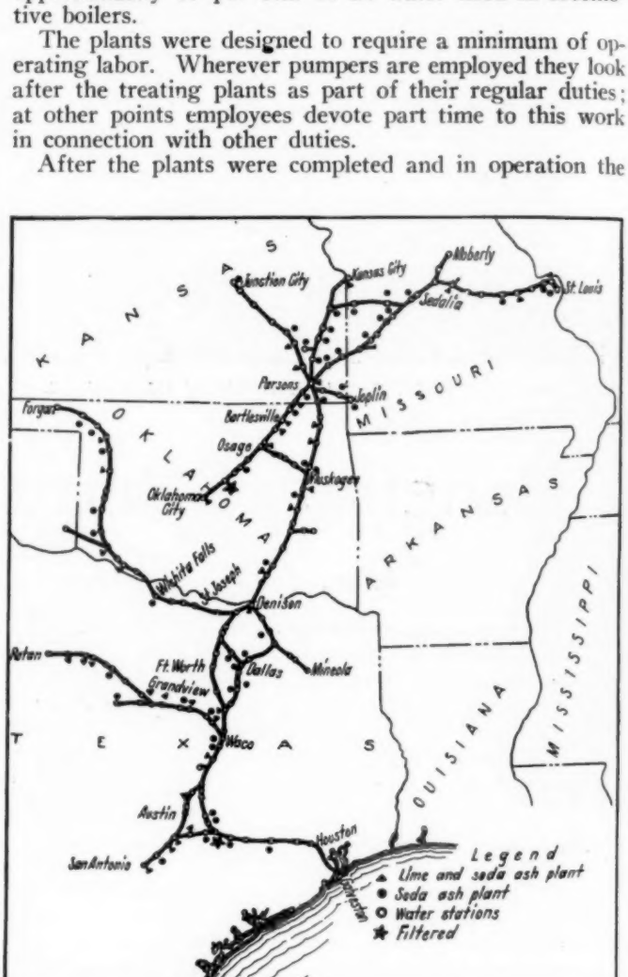
The houses are of frame construction with concrete floors and zinc shingles. They are of sufficient size to house machinery and provide storage space for at least 60 days' supply of chemicals. Lime and soda ash are purchased in carload lots and distributed to all but the larger stations by the supply train, under the supervision of the stores department, which makes a trip over the system once every 60 days. This method of supplying the smaller stations has been found to be economical and satisfactory.

The so-called "soda ash" plants which are used to inject sufficient soda ash to neutralize the permanent hardness in the water as it goes into the storage tanks, are of various types depending on the source of water supply and method of pumping. Some of them consist of a soda ash solution tank and a small duplex steam pump with operation regulated by the pumper. Others consist of a soda ash solution tank connected into the suction of the water pump, the feed of chemical being regulated by a valve in the connecting pipe. At plants where city water is used or the tank is remote from the pump house, use is made of a Roberts duplex water engine which operates a small plunger chemical pump. This introduces the soda ash solution in proportion to the raw water entering the tank. Where additional housing was required for this type of plant, old car bodies were fitted up for this purpose.

With the exception of one or two plants, all were completed and in operation by the close of 1923. The total investment in water treating facilities at the completion of this program was $281,843. This covers 35 complete softeners and 52 soda ash plants, constituting 60 per cent of the total number of water stations and softening approximately 65 per cent of all water used in locomotive boilers.

The plants were designed to require a minimum of operating labor. Wherever pumpers are employed they look after the treating plants as part of their regular duties; at other points employees devote part time to this work in connection with other duties.

After the plants were completed and in operation the



Map of the Missouri-Kansas-Texas, Showing Location of All Water Stations and Indicating Where Water Is Treated

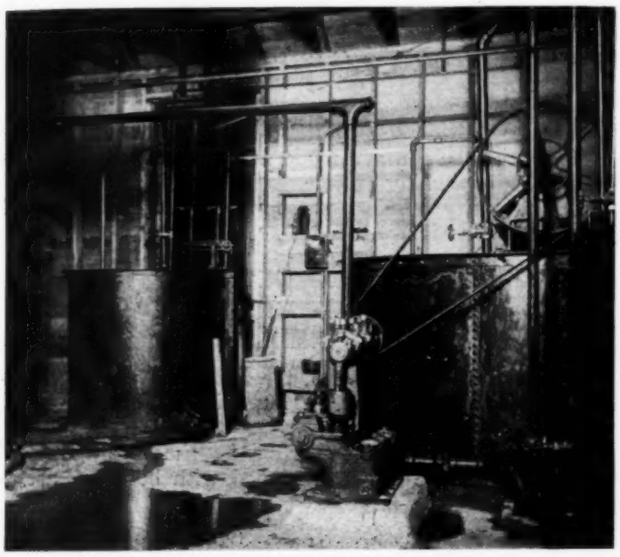
water engineer's work was placed under the supervision of the engineer maintenance of way. The water engineer has one assistant, one clerk and two inspectors. The division water service forces are responsible for the maintenance of the plants.

Samples of treated water are sent to the laboratory twice weekly from the lime and soda ash plants and once a week from the soda ash plants. Samples of raw water are sent in once a week from all plants. In addition to these tests the inspectors are continually making tests at the plants. From these tests the average incrustants in the raw and treated water are determined and in the case of the soda ash plants only the permanent hardness is considered removed. Complete records of all operating and maintenance costs are kept and a monthly statement is rendered, analyzing the costs on both a cost per thousand gallons basis and also on the basis of the pounds of incrusting matter removed.

At the end of the year an annual summary of results of operation is rendered.

A remarkable improvement in the number of boiler

failures has been made since the treating plants were installed and failures and delays due to leaking flues and fire boxes have been practically eliminated. Nearly all of the boiler failures the past year have been due to bursted flues. The average miles per boiler failure for the system in 1923 was 89,265. In 1924 it was 403,617 miles. The greatest improvement is on the Texas Central division where the incrusting matter in the raw water averages high. Five softeners were placed in operation on this division in December, 1922, and January, 1923, and two more softeners and four soda ash plants were installed the latter part of 1923. Total engine miles per boiler failure in 1921 were 23,823. In 1924 there was only one boiler failure (a bursted flue) with 982,748 miles. The following statement shows the miles per boiler failure for the system and also for the Texas Central division for



Chemical and Proportioning Machinery in the Graver Water Treating Plant at Oklahoma City

1921 to 1924, inclusive. The large number of failures during 1922 was partly due to conditions resulting from the strike.

STATEMENT OF BOILER FAILURES—MISSOURI-KANSAS-TEXAS LINES

Number of failures	1921	Locomotive mileage	Avg. miles per failure
Passenger	52	7,789,225	149,792
Freight	162	9,500,234	58,643
Total	214	17,289,459	80,791
	1922		
Passenger	154	6,149,826	39,933
Freight	427	8,518,341	19,949
Total	581	14,668,167	25,246
	1923		
Passenger	39	6,457,340	165,572
Freight	129	8,639,291	66,971
Total	168	15,096,631	89,265
	1924		
Passenger	15	6,370,317	424,687
Freight	21	8,159,901	383,805
Total	36	14,530,218	403,617

STATEMENT OF BOILER FAILURES—TEXAS CENTRAL DIVISION

Number of failures	1921	Locomotive mileage	Avg. miles per failure
Passenger	9	387,486	43,054
Freight	28	493,965	17,641
Total	37	881,451	23,823
	1922		
Passenger	54	315,548	5,843
Freight	107	539,025	5,037
Total	161	854,573	5,308
	1923		
Passenger	10	390,099	39,009
Freight	11	550,700	50,060
Total	21	940,799	44,799
	1924		
Passenger	None	410,819	410,819
Freight	1	571,929	571,929
Total	1	982,748	982,748

During 1923 a reorganization of operating districts was made and many changes were made in the assignment of power. These facts, together with the fact that it usually takes two years or longer for a locomotive to run out its flue mileage on this road, have made it impossible to secure a comparative statement at this time showing the average increase in life of flues and fire boxes on the system for all classes of power. A group of heavy passenger engines received new in 1920 and 1921 made an average of 120,000 miles with the original set of flues. With the second setting this mileage was considerably increased. Another group of practically the same class was received new in 1923 and made an average of over 150,000 miles with the original set of flues.

On the Texas Central division before the water was treated a new setting of flues usually lasted only eight months and required continual working. They are now lasting two years and require very little work. Fire boxes frequently had to have new sheets after eight to twelve months' service with heavy maintenance charges in the meantime. With the use of treated water at least five years' life is anticipated for these fire boxes. The records to date show that flue mileage on this division is about three times greater since water treating plants were placed in operation. It is estimated that the annual saving per locomotive per year on this division in fuel and boiler repairs due to improved water conditions is at least $3,000.

An Important Factor in Fuel Economy

Due to the relatively large number of soda ash plants in operation it is necessary to do some blowing off of engines on the road to keep down the concentration of suspended matter and foaming salts. On districts where the foaming salts are high an anti-foam boiler compound is used. The amount of fuel saved by having heating surfaces free from scale is much greater than the amount wasted through the blow-off cock and the fuel record for 1924 was excellent. As compared with 1923 on a passenger car mile and 1,000 gross ton mile basis, there was a decrease of approximately 10 per cent for passenger service, 14 per cent for freight service and 6 per cent for switching service. This decrease in fuel indicates a saving of approximately $470,000 for the year. During 1924 all locomotives except those operating between Franklin, Mo., and St. Louis, were oil burning and made the following record for the year:

PERFORMANCE OIL BURNING LOCOMOTIVES—1924

Passenger		Freight	
Locomotive miles	5,652,607	Locomotive miles	5,116,471
Passenger car miles	37,767,606	Gross ton miles	8,109,996
Gallons oil	41,314,088	Gallons oil	88,916,537
Cars per train	6.7	Tons per train	1,585
Gallons car mile	1.09	Gallons 1,000 G.T.M.	11.0

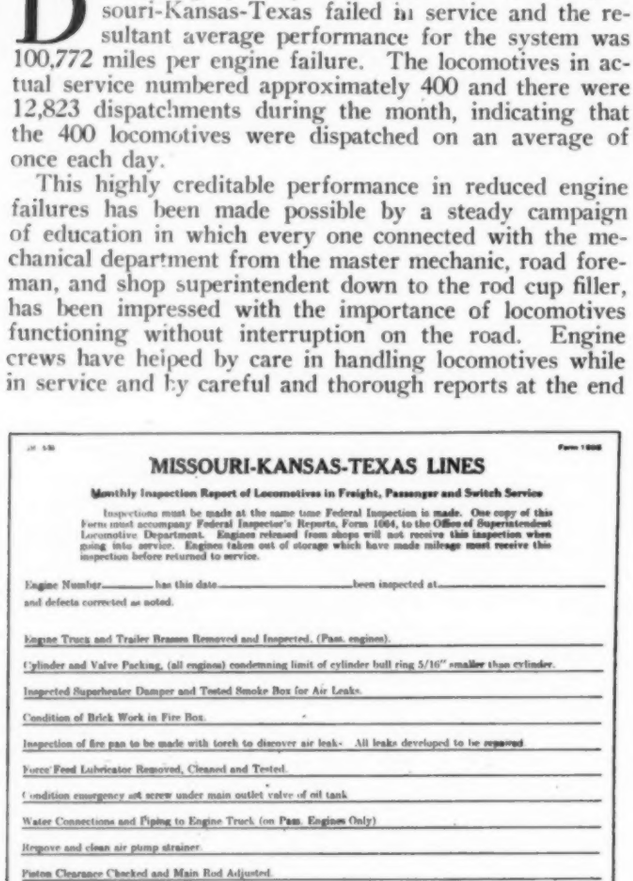
This record compares very favorably with that made by other roads operating in this district. While a great many factors enter into the saving of fuel, such as heavier train load, better firing and better shop work, the improvement of the water no doubt contributed materially in bringing about this decrease.

The improved water conditions have helped to make possible the long continuous engine runs that are now being made on this road. Freight locomotives are being run from 275 to 343 miles continuously and passenger engines have been regularly in successful operation on a continuous run of 869 miles.

100,772 Miles Per Engine Failure on the Katy

DURING July, only 12 locomotives on the Missouri-Kansas-Texas failed in service and the resultant average performance for the system was 100,772 miles per engine failure. The locomotives in actual service numbered approximately 400 and there were 12,823 dispatchments during the month, indicating that the 400 locomotives were dispatched on an average of once each day.

This highly creditable performance in reduced engine failures has been made possible by a steady campaign of education in which every one connected with the mechanical department from the master mechanic, road foreman, and shop superintendent down to the rod cup filler, has been impressed with the importance of locomotives functioning without interruption on the road. Engine crews have helped by care in handling locomotives while in service and by careful and thorough reports at the end



MISSOURI-KANSAS-TEXAS LINES

Monthly Inspection Report of Locomotives in Freight, Passenger and Switch Service

Inspections must be made at the same time Federal Inspection is made. One copy of this Form must accompany Federal Inspector's Reports, Form 1604, to the Office of Superintendent Locomotive Department. Engines released from shops will not receive this inspection when going into service. Engines taken out of storage which have made mileage must receive this inspection before returned to service.

Engine Number_____ has this date_____ been inspected at_____ and defects corrected as noted.

Engine Truck and Trailer Brasses Removed and Inspected. (Pass. engines).

Cylinder and Valve Packing, (all engines) condemning limit of cylinder bull ring 5/16" smaller than cylinder.

Inspected Superheater Damper and Tested Smoke Box for Air Leaks.

Condition of Brick Work in Fire Box.

Inspection of fire pan to be made with torch to discover air leak. All leaks developed to be repaired.

Force Feed Lubricator Removed, Cleaned and Tested.

Condition emergency set screw under main outlet valve of oil tank.

Water Connections and Piping to Engine Truck (on Pass. Engines Only)

Regrove and clean air pump strainer.

Piston Clearance Checked and Main Rod Adjusted.

Test superheater units (or steam pipes) and nozzle stand. (Pressure in Pounds).

Approved:

Inspectors.

Master Mechanic. Roundhouse Foreman.

Show work done in connection with this test also new material applied.

Monthly Inspection Report Form Used on the Missouri-Kansas-Texas

of runs. From a mechanical point of view perhaps the most important factor has been the specialization of engine house repair work and the provision of a sufficient number of inspectors at important terminals to make careful inspection of every locomotive, both inbound and outbound.

Once each 30 days a regular monthly inspection is made and reported on form 1605, illustrated. An additional form 1606 is provided for the quarterly inspection which is similar to form 1605 except for the addition of the following items of work: "Removed dome cap and inspected throttle and rigging," "Thickness of tires," "Condition of flanges and tread wear," "Condition of firebox and flues," "Lye out air pumps per standard practice card No. 1," and "Testing headlight dynamo for speed and voltage, also condition of bearings." These two forms were put into effect several months ago and have been instrumental in reducing considerably the number of failures caused by certain items mentioned on the forms and not heretofore receiving careful enough inspection.

Hot bearings on locomotives have been almost entirely eliminated as well as failures from cylinder and valve packing, steam failures caused by leaky units, cylinder heads knocked out on account of long main rods, engine truck, trailer and tender truck brasses on account of worn out brasses and checked or broken linings.

The total mileage for all classes of Katy locomotives was 1,209,267. Approximately 19 per cent of this total mileage represents switch mileage and 81 per cent road mileage.

Large freight and passenger engines on the Missouri-Kansas-Texas accomplished a daily average mileage as shown in Table I.

TABLE I—DAILY AVERAGE MILEAGE OF LARGE FREIGHT AND PASSENGER ENGINES

Type	Tractive force	Average daily mileage
Pacific (through passenger)	41,000 lb.	183
Pacific (through passenger)	38,000 lb.	172
Pacific (through passenger)	32,000 lb.	143
Booster (through freight)	61,000 lb.	147

Mileage represented by these four classes of power is exclusive of the mileage made in local freight, local passenger and switching service.

The majority of Katy passenger engines are engaged in long runs as follows:

St. Louis to Franklin	189.1 miles
Franklin to Parsons	197.5 miles
Parsons to San Antonio	652 miles
Muskogee to Kansas City	253 miles
Muskogee to Houston	580 miles
Muskogee to San Antonio	535 miles

Until about a month ago, the Katy ran passenger engines from Franklin to San Antonio, a distance of 849 miles.

Long freight locomotive runs by the locomotives of 61,000 lb. tractive effort, equipped with boosters, are as follows:

Denison to Smithville	308.5 miles
Parsons to Denison	274.3 miles

Locomotives in all other passenger and freight service are run over one or two divisions.

A comparison of engine failures, beginning with the year 1921 and the first six months of 1922, as compared with 1924 and the first seven months of 1925, is given in Table II. The last six months of 1922 and the year 1923 were during the shop strike period and comparison with these would be unfair.

TABLE II—MILEAGE BETWEEN ENGINE FAILURES ON THE KATY FOR A 4-YEAR PERIOD

	1921		1922		1924		1925	
Month	No. of failures	Average mileage between failures	No. of failures	Average mileage between failures	No. of failures	Average mileage between failures	No. of failures	Average mileage between failures
January	86	17,255	71	17,243	56	22,045	35	35,669
February	81	15,624	66	16,221	52	21,406	13	85,080
March	80	17,228	63	19,134	38	30,017	18	66,184
April	68	18,803	66	18,390	33	33,881	22	52,890
May	66	19,795	68	18,641	18	63,172	16	72,152
June	64	20,050	65	19,503	21	51,335	15	75,237
July	82	17,597	...	.....	23	51,154	12	100,772
August	99	14,626	...	.....	29	41,721	...	.....
September	74	18,422	...	.....	38	32,743	...	.....
October	105	14,123	...	.....	30	44,997	...	.....
November	90	15,079	...	.....	42	32,340	...	.....
December	108	12,004	...	.....	33	41,512	...	.....

A study of Table II indicates that the Katy has been making steady progress in eliminating locomotive failures since 1921. The campaign has made headway month by month, and the month of July broke all records for this road.

The reduction of locomotive failures to 12 is proof of the splendid co-operation existing between all departments and employees concerned with the handling, overhauling, repairing and dispatching of power.

General News Department

The Chicago, Rock Island & Pacific on August 27 applied to the Interstate Commerce Commission for authority to abandon a five-mile line from Pre-emption, Ill., to Cable. The road was built to serve coal mines at Cable, which have since been abandoned.

The Central Railway Club will hold its regular meeting at 8 p. m. on September 10 at the Hotel Statler, Buffalo, N. Y. R. W. Snyder, mechanical engineer of the Lima Locomotive Works, will present a paper, illustrated by slides, on the Lima 2-8-4 locomotive.

Henry Jones Ford, who served for eight months as a member of the Interstate Commerce Commission under a recess appointment by President Wilson, after his original appointment failed of confirmation by the Senate, died at Blue Ridge Summit, Pa., on August 29.

The Union Pacific announces that beginning on Monday, September 14, the dining cars on the San Francisco Overland Limited trains (1 and 2) will be run through between Chicago and San Francisco and that the diners on the Los Angeles Limited trains (7 and 8) will be run through between Chicago and Los Angeles.

Engineman Frank Cox of the Cleveland, Cincinnati, Chicago & St. Louis, set a new speed record for that road on August 27 when he pulled a train of nine passenger cars from Mattoon, Ill., to St. Louis, Mo., a distance of 124 miles, in 126 minutes. The 115 miles between Granite City, Ill., and Mattoon, was covered in 103 minutes.

The honor guest at the seventh annual convention of the Veterans' Association of the Chicago, Milwaukee & St. Paul, which was held in Milwaukee, Wis., on August 24, was John M. Horan, boiler inspector foreman at the Milwaukee yards. Mr. Horan has just completed his seventieth year of continuous service with the Chicago, Milwaukee & St. Paul.

The Chicago, Burlington & Quincy on September 2 celebrated the 75th anniversary of the beginning of its operation. From the 12-mile line from Aurora, Ill., to Turner Junction, now West Chicago, on which service was begun in September, 1850, the Burlington has grown to become a system of 10,000 miles, operating in 11 states. On the 75th birthday a telegram of congratulation from Hale Holden, president of the road, was addressed to the 60,000 employees of the company.

Earl U. Gray, disbursing officer of the United States Railroad Labor Board at Chicago, was arrested on August 29 and charged with the embezzlement of Labor Board funds. It is charged that Mr. Gray has embezzled approximately $10,000 during the last two years by padding the payroll of the Labor Board, issuing pay checks made out in the names of fictitious persons and retaining them. He was released on bail after the assignment of the case for hearing by United States Commissioner Glass at Chicago.

A cloudburst of unprecedented proportions in the drainage area of the Price river, Utah, did heavy damage to 18 miles of the main line of the Denver & Rio Grande Western between Woodside, Utah, and Verde, and also to the Sunnyside branch, north of Mounds, on August 27. Five steel bridges and three trestles, with a large amount of embankment ranging from 15 to 25 ft. in height, were washed out. Temporary repairs were completed and through service restored on Tuesday night, September 1.

The Interstate Commerce Commission has dismissed the complaint of the San Diego Chamber of Commerce against various roads, which complaint sought the establishment of through routes for joint class and commodity rates by way of El Centro, Cal., and San Diego, on traffic moving between points in Oregon and California on one hand, and points in other parts of the United States on the other. The commission held that through routes for joint rates south would have to apply over lines on the Tijuana & Tecate railway and the Inter-California railway, both of which lines are located entirely within Mexico and over which the commission has no jurisdiction.

Says Alaska Railroad Should Be Abandoned

Congressman Arthur M. Free, of California, who has just returned from Alaska, tells the newspapers that the Alaska Railroad ought to be abandoned; that it costs more to operate than it is worth. Costing $60,000,000, it serves a population of less than 5,000 people; and it costs the government $2,000,000 a year for operation and maintenance, which is an average of $400 for each person served. Mr. Free declares that there is no prospect of any reduction in costs of operation and maintenance. When asked what remedy he would suggest, he said: "Pull up the rails and make a highway of it; or build a highway from Portage Bay and abandon the railroad from Seward to Anchorage."

Cost of Fuel

The cost of fuel for road locomotives in freight and passenger train service (charged to operating expenses) for Class I steam roads for the first six months of 1925 was $163,120,525, according to the monthly report published by the Interstate Commerce Commission, as compared with $185,572,620 in the corresponding period of 1924. The average cost of coal per ton was $2.78, as compared with $3.18 last year, but the average cost of fuel oil increased from 2.73 cents a gallon to 3.17 cents. For the month of June the average cost of coal was $2.70 and the average cost of oil was 3.28 cents, making the total cost of coal and fuel oil for the month $24,376,103, as compared with $25,314,756 last June. For the six months' period the number of net tons of coal consumed was only 47,406,574, as compared with 49,721,957 last year.

Anniversary and Celebration of Pitcairn Car Shop

On August 4 the tenth thousand car was turned out of the steel car shop of the Pennsylvania at Pitcairn, Pa., and this event was celebrated on August 26 by an old-fashioned anniversary and celebration, consisting of athletic contests, musical entertainments, dancing and band concerts. The Pitcairn car shop, established in 1890, consisted of a roundhouse for repairing freight cars, a small brick office building and four repair tracks. The present roundhouse in which repairs are made to freight and passenger cars and locomotive tenders, contains 42 repair tracks. The steel freight car repair shop, erected in 1923 at a cost of approximately $1,000,000, is equipped with all modern and labor-saving devices. The main building of this shop is 100 ft. wide and 620 ft. long, and the rivet cutting building, 35 ft. wide and 200 ft. long. Approximately 800 men are employed in the steel car shop and a car is rebuilt and turned out every 24 min. Passenger cars are given heavy running repairs, and there is also a progressive system for class repairs to 22 passenger cars per month, this being the only class repair shop in the Central Region. About 4,000 freight cars are repaired on various repair tracks per month. Repairs also are made to locomotive and car air brake parts for all points on the Western Pennsylvania division. There is a machine shop, forge shop, paint shop, cabinet shop, upholstering shop, tin shop, blacksmith shop and a large stores department which furnish material for the entire shop.

Progress in Chicago Terminal Problem

Representatives of the railway companies that are owners and tenants in the Dearborn street, LaSalle street and Grand Central stations at Chicago were summoned to a meeting on September 2 at which John J. Sloan, president of the Chicago Board of Local

Improvements, announced the board's plans for the opening and widening of South Dearborn, South LaSalle, South Wells, South Franklin, Polk, Taylor, West 14th and West 18th streets, Chicago, through the railroad terminal district. Dearborn, LaSalle, Wells and Franklin streets are to be opened and widened between Polk and 22nd streets; and Polk, Taylor, 14th and 18th streets are to be opened and widened between the Chicago river and State street. According to the plans of the Board of Local Improvements, elevated structures will be used to carry the street traffic. This will involve the condemnation of land under the elevated structures and will require also the relocation of railway tracks and facilities.

J. E. Slater

J. E. Slater, who has been appointed professor of transportation at the University of Illinois, was born in Somerville, Mass., in 1891 and was educated in the public schools of that city. He was graduated from Harvard University with the class of 1913, having had one year of graduate work in the School of Business Administration. He then spent a year in the general office of the Union Pacific at New York, following which he entered the service of the New York, New Haven & Hartford and has been with that company continuously, with the exception of about fifteen months military service, up to the present time. His first position on the New Haven was that of statistician for a committee which was analyzing the results of electric operation. After about a year at this work he became statistician and special accountant in the accounting department and in January, 1917, was appointed chief clerk to the general manager. In February, 1918, he was commissioned a first lieutenant of engineers, and sailed for France the following month where he remained until May, 1919. His work in the army was entirely along railroad lines with the advance section, the later part of it in the position of superintendent of the railroad division supplying the second, and later the third, army. He was discharged from the army with the commission of captain and returned to the New York, New Haven & Hartford in July, 1919, as assistant to the general manager in which position he has served continuously to date. His work has consisted primarily of analyzing railroad operations and in the preparation of data in connection with numerous cases before state commissions and the Interstate Commerce Commission. Mr. Slater has contributed several articles to the *Railway Age* on the subject of operating statistics and operating analysis.

J. E. Slater

Canadian Earnings for Seven Months

Official figures issued in Toronto last week by Sir Henry Thornton, president of the Canadian National, show that that road has made a notable advance in net revenue during the first seven months of this year, and that this gain was made in the face of decreased gross receipts. The gross receipts were $8,934,871 or 6.63 per cent below the corresponding figures for 1924, but operating expenses were reduced by $11,387,477 or 8.65 per cent, so that the net result stands at $5,667,287, an increase of $2,452,606 or 76.29 per cent over the first seven months of last year. During July this year the gross increased by $383,944 or 1.92 per cent over the same month last year. Operating expenses were cut by $955,746 or 4.93 per cent, and the resultant increase in net revenues for July is $1,339,690 or 228.91 per cent. In the first three weeks of August, 1925, gross earnings have shown an increase of $1,773,594 or 14.5 per cent, as compared with the gross for the same three weeks last year.

The summary of results in operating revenues and expenses is as follows:

Revenues, July, 1925—$20,370,614; 1924, $19,986,670; change, [a]$383,944; per cent, 1.92.
Expenses, July, 1925—$18,445,673; 1924, $19,401,419; change, [b]$955,746; per cent, 4.93.
Net, July, 1925—$1,924,941; 1924, $585,251; change, [a]$1,339,690; per cent, 228.91.
For seven months:
Revenues, July, 1925—$125,914,357; 1924, $134,849,228; change, [b]$8,934,871; per cent, 6.63.
Expenses, July, 1925—$120,247,070; 1924, $131,634,547; change, [b]$11,387,477; per cent, 8.65.
Net, July, 1925—$5,667,287; 1924, $3,214,681; change, [a]$2,452,606; per cent, 76.29.

[a]Increase. [b]Decrease.

The Canadian Pacific at the end of June was $2,592,438 below the same period in 1924 in net revenues, while the net result for July has brought that down to $1,543,124.

Gross earnings, working expenses and net profits are shown in the following for the month of July and the seven months of the current year ending with July:

	July, 1925	July, 1924	Increase
Gross	$15,188,048	$14,883,677	$304,371
Working expenses	11,799,172	12,544,115	*744,942
Net profits	3,388,875	2,339,561	1,049,313
Seven months ending:			
	July, 1925	July, 1924	Increase
Gross	$90,343,867	$99,540,594	*$9,196,726
Working expenses	79,157,346	86,810,947	*7,653,601
Net profits	11,186,521	12,729,646	*1,543,124

* Decrease.

Railway Net for July Shows Large Increase

Total operating revenues in July of the Class I carriers, having a total mileage of 236,659 miles, amounted to $522,426,600, an increase of $40,600,560, or 8.4 per cent compared with the same month last year, according to reports filed by the carriers with the Interstate Commerce Commission and compiled by the Bureau of Railway Economics.

Operating expenses totaled $382,905,000, an increase of $12,804,570, or 3.5 per cent as compared with those for the same month last year although freight traffic in July this year, measured in net ton miles, was approximately 14 per cent greater than in July, 1924.

The net railway operating income of the Class I railroads in July was $99,462,735, as compared with $74,368,289 in July last year, or an increase of $25,094,446. The net railway operating income for the first seven months this year amounted to $537,165,541, which was at an annual rate of return of 4.53 per cent on property investment, compared with $466,718,335, or 4.06 per cent, for the same period last year.

The net railway operating income by districts for the first seven months this year, with the percentage of return based on property investment on an annual basis was as follows:

New England Region	$21,579,069	4.26%
Great Lakes Region	111,296,304	5.47%
Central Eastern Region	118,127,495	4.71%
Pocahontas Region	35,536,693	6.89%
Total Eastern District	286,539,561	5.15%
Southern District	87,164,969	5.69%
Northwestern Region	41,672,525	2.71%
Central Western Region	77,596,296	3.51%
Southwestern Region	44,192,190	4.32%
Total Western District	163,461,011	3.43%
United States	$537,165,541	4.53%

Twenty-four Class I railroads operated at a loss during July, of which 6 were in the Eastern district, 1 in the Southern district, and 17 in the Western district.

Expenditures for maintenance in July totaled $180,281,600, an increase of $7,618,270 or 4.4 per cent over July last year. Maintenance of way expenditures alone in July totaled $74,959,549, an increase of $1,767,000 or 2.4 per cent. Expenditures for maintenance of equipment totaled $105,322,051, an increase of $5,851,250 or 5.9 per cent.

Carriers in the Eastern district had a net operating income in July of $53,830,680, as compared with $37,749,371 in July last year. Freight traffic in the Eastern district in July, according to incomplete reports, was about 17 per cent above that of the corresponding period last year. Operating revenues of the Eastern carriers totaled $264,111,983, an increase of 10.3 per cent. Operating expenses totaled $190,793,100, an increase of 4.1 per cent.

Class I carriers in the Eastern district during the first seven months this year had a net operating income amounting to $286,539,560, as compared with $239,909,000 for the corresponding period last year.

Class I carriers in the Southern district in July had a net operating income of $12,040,930, as compared with $8,806,630 in July last year. Freight traffic on the Southern roads in July was about 16.5 per cent above that of the same month last year. Operating revenues of the Southern carriers in July totaled $65,672,416, an increase of 10 per cent, while operating expenses totaled $49,345,400, an increase of 4.3 per cent. The net operating income for the Class I railroads in the Southern district for the first seven months was $87,164,969, as compared with $77,021,619 during the same period last year.

Carriers in the Western district had a net operating income in July of $35,591,122, as compared with $27,812,282 for the same month last year. Freight traffic in the Western district showed an increase of approximately 8.5 per cent over that of July, 1924. Operating revenues of the Western carriers totaled $192,642,195, an increase of 5.5 per cent, while operating expenses totaled $142,766,550, an increase of 2.4 per cent. Class I carriers in the Western district during the first seven months this year had a net operating income of $163,461,000, as compared with $149,787,693 during the same period one year ago.

Progress in Train Control Installation

The work of installing automatic train control devices in accordance with the orders of the Interstate Commerce Commission, which will require the expenditure of approximately $26,000,000 by the 45 roads named in Order No. 1, is progressing rapidly, according to a statement issued by W. J. Harahan, chairman of the Committee on Automatic Train Control of the American Railway Association.

Up to August 1 this year, out of 7,745 miles of track of the 45 carriers designated for installation of train control devices, installation had either been completed or was under way on divisions totaling 5,044 miles, or 65 per cent of the total mileage covered by the order. On January 1, last, installation had been completed or was under way only on 3,592 miles, or 42 per cent.

All of the 45 roads have selected a train control device for installation. Three roads have selected the ramp type, 23 the intermittent induction type, 13 the continuous induction type, and 6 the plain automatic stop using continuous control.

Thirteen roads have completed permanent installation, while 16 roads have permanent installation now under construction. Preliminary installation have been completed by 13 roads, while 3 others have preliminary installations now under construction.

The original order of the commission named 49 roads, but the Chicago, St. Paul, Minneapolis & Omaha; the Buffalo, Rochester & Pittsburgh; the Western Maryland, and the Chicago & Erie were later exempted. The commission on January 14, 1924, in its order, No. 2, also ordered 47 of the roads listed originally to install train control devices on a second division, but later exempted five of those roads. The commission in its Order 2 also ordered 45 additional roads to equip one division prior to February 1, 1926. Later, at the request of the carriers, the commission also suspended the second order so far as the 45 additional roads were concerned.

The permanent installations completed or in service, according to reports of the roads to the Interstate Commerce Commission, are as follows:

Road	Location	Maker	Mileage
Atchison, Topeka & Santa Fe	Chillicothe, Ill., to Shopton, Ia.	Union	209
Chesapeake & Ohio	Gordonsville to Staunton, Va.	American	61
Chicago & Eastern Illinois	Chicago to Danville, Ill.	Miller	210.8
Chicago, Rock Island & Pacific	Blue Island to Rock Island, Ill.	Regan	330
Galveston, Harrisburg & San Antonio	Rosenberg to Gidden, Tex.	National	50.6
Missouri Pacific	Leeds, Mo., to Osawatomie, Kan.	National	49.9
New York, New Haven & Hartford	Air Line Jct., to Springfield, Mass.	General and Union	124
Norfolk & Western	Hagerstown to Shenandoah, Va.	Union	105.8
Oregon-Washington R. R. & Navigation Co.	Portland to The Dalles, Ore.	Union	86.5
Reading	Camden to Atlantic City, N. J.	Union	108.2
Southern Pacific	Oakland to Tracy, Calif.	National	98.8
St. Louis-San Francisco	Nichols to Monett, Mo.	National	44.4
Union Pacific	Sidney, Neb., to Cheyenne, Wyo.	Union	204

Permanent installations are under construction on the Atchison, Topeka & Santa Fe (second Order); Atlantic Coast Line; Baltimore & Ohio; Central of New Jersey; Chicago, Burlington & Quincy; Chicago & Northwestern; Chicago, Milwaukee & St. Paul; Cincinnati, New Orleans & Texas Pacific; Delaware, Lackawanna & Western; Great Northern; Illinois Central; Louisville & Nashville; Northern Pacific; Pennsylvania; Pere Marquette, and Southern.

Preliminary installations are in operation or have been completed by the Boston & Albany; Boston & Maine; Chicago & Alton; Chicago, Indianapolis & Louisville; Delaware & Hudson; Kansas City Southern; Lehigh Valley; Michigan Central; New York Central; New York, Chicago & St. Louis; Pennsylvania; Pittsburgh & Lake Erie, and Richmond, Fredericksburg & Potomac.

Preliminary installations are under construction on the Cleveland, Cincinnati, Chicago & St. Louis; Erie, and Long Island.

The three roads that have selected the ramp type are the Chesapeake & Ohio (American), Chicago & Eastern Illinois (Miller), and Chicago, Rock Island & Pacific (Regan).

The twenty-three that have selected the intermittent induction type are the Atlantic Coast Line; Boston & Albany; Cincinnati, New Orleans & Texas Pacific; Cleveland, Cincinnati, Chicago & St. Louis; Delaware & Hudson; Erie; Kansas City Southern; Lehigh Valley; Michigan Central; New York Central; Pere Marquette, and Southern, of the type of the General Railway Signal Company; the Chicago & Alton; Galveston, Harrisburg & San Antonio; Missouri Pacific; St. Louis-San Francisco, and Southern Pacific, of the type of the National Safety Appliance Company; the Chicago, Burlington & Quincy; Chicago, Indianapolis & Louisville; Great Northern, and Northern Pacific, of the type of the Sprague Safety Control and Signal Corporation; and the New York, Chicago & St. Louis, and the Pittsburgh & Lake Erie, of the type of the Union Switch & Signal Company.

The thirteen that have selected the continuous induction type are the Chicago & Northwestern and Baltimore & Ohio (General Railway Signal Company), and the Boston & Maine; Delaware, Lackawanna & Western; Long Island; Louisville & Nashville; Oregon-Washington Railroad & Navigation Company; Richmond, Fredericksburg & Potomac; Union Pacific; Atchison, Topeka & Santa Fe; Norfolk, Western, and Reading (Union Switch & Signal Company).

The six that have selected plain automatic stop are the Chicago, Milwaukee & St. Paul; Illinois Central; New York, New Haven & Hartford; Pennsylvania; Pittsburgh, Cincinnati, Chicago & St. Louis; and West Jersey & Seashore (Union Switch & Signal Company).

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings.

AIR BRAKE ASSOCIATION.—F. M. Nellis, 165 Broadway, New York City. Next convention, May 4-7, 1926, New Orleans, La. Exhibit by Air Brake Appliance Association.

AIR BRAKE APPLIANCE ASSOCIATION.—John B. Wright, Westinghouse Air Brake Co. Meeting with Air Brake Association.

AMERICAN ASSOCIATION OF ENGINEERS.—H. Almert, 63 E. Adams St., Chicago. Next convention, June, 1926, Philadelphia, Pa.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—Grant Williams, 1341 Railway Exchange, Chicago.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. L. Duncan, 332 So. Michigan Ave., Chicago. Next meeting, June 1, 1926, Atlantic City, N. J.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—W. C. Hope, C. R. R. of N. J., 143 Liberty St., New York. Next meeting, October 29-30, 1925, New Orleans, La.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—J. Rothschild, Room 400, Union Station, St. Louis, Mo. Next convention, June 15-18, 1926, Montreal, Quebec, Canada.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—C. H. Shircliffe, Chicago & North Western Ry., Chicago. Annual meeting, October 6, Hotel Statler, St. Louis, Mo.

AMERICAN ELECTRIC RAILWAY ASSOCIATION.—J. W. Welsh, 292 Madison Ave., New York. Annual convention, October 5-9, 1925, Atlantic City, N. J.

AMERICAN RAILROAD MASTER TINNERS', COPPERSMITHS' AND PIPE FITTERS' ASSOCIATION.—C. Borcherdt, 202 North Hamilton Ave., Chicago, Ill.

AMERICAN RAILWAY ASSOCIATION.—H. J. Forster, 30 Vesey St., New York, N. Y.

Division I.—Operating—J. C. Caviston, 30 Vesey St., New York.

Freight Station Section (including former activities of American Association of Freight Agents).—R. O. Wells, Freight Agent, Illinois Central Railroad, Chicago Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York.

Protective Section (including former activities of the American Railway Chief Special Agents and Chiefs of Police Association).—J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York.
Telegraph and Telephone Section (including former activities of the Association of Railroad Telegraph Superintendents).—W. A. Fairbanks, 30 Vesey St., New York. Next meeting, October 27-29, 1925, Hotel Roosevelt, New Orleans, La.
Division II.—Transportation (including former activities of the Association of Transportation and Car Accounting Officers).—G. W. Covert, 431 South Dearborn St., Chicago, Ill.
Division III.—Traffic, J. Gottschalk, 143 Liberty St., New York.
Division IV.—Engineering, E. H. Fritch, 431 South Dearborn St., Chicago, Ill. Annual convention, March 9-11, Chicago. Exhibit by National Railway Appliances Association, March 8-11.
Construction and Maintenance Section.—E. H. Fritch.
Electric Section.—E. H. Fritch.
Signal Section (including former activities of the Railway Signal Association).—H. S. Balliet, 30 Vesey St., New York, N. Y. Next meeting, Sept. 29 to Oct. 1, West Baden Springs Hotel, West Baden, Ind.
Division V.—Mechanical (including former activities of the Master Car Builders' Association and the American Railway Master Mechanics' Association).—V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill. Exhibit by Railway Supply Manufacturers' Association.
Equipment Painting Section (including former activities of the Master Car and Locomotive Painters' Association).—V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill. Next meeting, September 15-17, 1925, St. Paul Hotel, St. Paul, Minn.
Division VI.—Purchases and Stores (including former activities of the Railway Storekeepers' Association).—W. J. Farrell, 30 Vesey St., New York, N. Y.
Division VII.—Freight Claims (including former activities of the Freight Claim Association).—Lewis Pilcher, 431 South Dearborn St., Chicago, Ill.
Car Service Division.—C. A. Buch, 17th and H Sts., N. W., Washington, D. C.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty, C. & N. W. Ry., 319 N. Waller Ave., Chicago. Next convention, October 20-22, 1925, Buffalo, N. Y. Exhibit by Bridge and Building Supply Men's Association.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—A. L. Moorshead, Industrial Engineer, Erie R. R., New York, N. Y. Semi-annual meeting, December, 1925, Chicago; annual meeting, May, 1926, Vancouver, B. C.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—(Works in co-operation with the American Railway Association Division IV.) E. H. Fritch, 431 South Dearborn St., Chicago. Annual convention, March 9-11, Chicago. Exhibit by National Railway Appliances Association.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.—(See American Railway Association, Division V.)

AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—G. G. Macina, C. M. & St. P. Ry., 11402 Calumet Ave., Chicago. Exhibit by Supply Association of the American Railway Tool Foremen's Association.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—T. F. Whittelsey, 1319-21 F St., N. W., Washington, D. C.

AMERICAN SOCIETY FOR STEEL TREATING.—W. H. Eisenman, 4600 Prospect Ave., Cleveland, Ohio. Annual convention, week of September 14, 1925, Cleveland, Ohio.

AMERICAN SOCIETY FOR TESTING MATERIALS.—C. L. Warwick, 1315 Spruce St., Philadelphia, Pa.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—29 W. 39th St., New York. Regular meetings 1st and 3rd Wednesday in month, except July and August, 33 W. 39th St., New York.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Calvin W. Rice, 29 W. 39th St., New York. Railroad Division, A. F. Stuebing, Chief Engineer, Bradford Draft Gear Co., 23 W. 43rd St., New York.

AMERICAN TRAIN DISPATCHERS' ASSOCIATION.—C. L. Darling, 10 East Huron St., Chicago, Ill.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—E. J. Stocking, 111 West Washington St., Chicago. Next convention, January 26-28, 1926, Cleveland, Ohio.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—H. D. Morris, District Claim Agent, Northern Pacific Ry., St. Paul, Minn. Annual meeting, May, 1926, Los Angeles, Calif.

ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—Jos. A. Andreucetti, C. & N. W., Room 411, C. & N. W. Sta., Chicago. Annual meeting, October 27-30, Hotel Sherman, Chicago. Exhibit by Railway Electrical Supply Manufacturers' Association.

ASSOCIATION OF RAILWAY EXECUTIVES.—Stanley J. Strong, 17th and H Sts., N. W., Washington, D. C.

ASSOCIATION OF RAILWAY SUPPLY MEN.—E. E. Thulin, Peoples Gas Bldg., Chicago. Meeting with International Railway General Foremen's Association.

ASSOCIATION OF RAILWAY TELEGRAPH SUPERINTENDENTS.—(See American Railway Association, Division I.)

ASSOCIATION OF TRANSPORTATION AND CAR ACCOUNTING OFFICERS.—(See American Railway Association, Division II.)

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—B. J. Wilson, Pocket List of Railroad Officials, 1428 Lytton Bldg., Chicago. Meeting with American Railway Bridge and Building Association.

CANADIAN RAILWAY CLUB.—C. R. Crook, 129 Charron St., Montreal, Que.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Aaron Kline, 626 North Pine Ave., Chicago. Regular meetings, 2nd Monday in month, except June, July and August, Great Northern Hotel, Chicago.

CAR FOREMEN'S ASSOCIATION OF LOS ANGELES.—J. W. Krause, 514 East Eighth Street, Los Angeles, Calif. Regular meetings, second Friday of each month, 514 East Eighth Street, Los Angeles.

CAR FOREMEN'S ASSOCIATION OF ST. LOUIS, MO.—R. F. Giger, 721 North 23rd St., East St. Louis, Ill. Meetings, first Tuesday in month at the American Hotel Annex, St. Louis.

CENTRAL RAILWAY CLUB.—Harry D. Vought, 26 Cortlandt St., New York. Regular meetings, 2nd Thursday, January to November. Interim meetings, 2nd Thursday, February, April, June, Hotel Statler, Buffalo, N. Y.

CHICAGO CLAIM CONFERENCE, Personal Injury Section.—F. L. Johnson, Chicago & Alton R. R., 340 Harrison St., Chicago. Meets 12:30 p. m., first Monday each month, Sherman Hotel, Chicago.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S ASSOCIATION.—A. S. Sternberg, Belt Ry. of Chicago, Polk and Dearborn Sts., Chicago. Annual convention, September 22-24, Hotel Sherman, Chicago.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S SUPPLY MEN'S ASSOCIATION.—Bradley S. Johnson, W. H. Miner, Rookery Bldg., Chicago, Ill. Meeting with Chief Interchange Car Inspectors' and Car Foremen's Association.

CINCINNATI RAILROAD CLUB.—W. C. Cooder, Union Central Bldg., Cincinnati, Ohio. Meetings, 2nd Tuesday in February, May, September and November.

CLEVELAND STEAM RAILWAY CLUB.—F. L. Frericks, 14416 Alder Ave., Cleveland, Ohio. Meetings, first Monday each month, Hotel Cleveland, Public Square, Cleveland.

EASTERN RAILROAD ASSOCIATION.—E. N. Bessling, 614 F St., N. W., Washington, D. C.

FREIGHT CLAIM ASSOCIATION.—(See American Railway Association, Division VII.)

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich. Next convention, 1926, Cleveland, O. Exhibit by International Railroad Master Blacksmiths' Supply Men's Association.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' SUPPLY MEN'S ASSOCIATION.—Edwin T. Jackman, 710 W. Lake St., Chicago.

INTERNATIONAL RAILWAY CONGRESS.—Office of Permanent Commission of the Association, 74 rue du Progrès, Brussels, Belgium. General secretary, P. Ghilain. Next session of the Congress, Spain, 1926.

INTERNATIONAL RAILWAY FUEL ASSOCIATION.—J. B. Hutchison, 1809 Capitol Avenue, Omaha, Neb. Annual convention, May 11-14, 1926, Chicago. Exhibit by International Railway Supply Men's, New York.

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—Wm. Hall, 1061 W. Wabasha Ave., Winona, Minn. Annual convention, September 8-11, 1925, Hotel Sherman, Chicago.

INTERNATIONAL RAILWAY SUPPLY MEN'S ASSOCIATION.—F. P. Roesch, 1942 McCormick Bldg., Chicago, Ill. Meeting with International Railway Fuel Association.

MASTER BOILER MAKERS' ASSOCIATION.—Harry D. Vought, 26 Cortlandt St., New York. Next meeting, May 25-28, 1926, Hotel Statler, Buffalo.

MASTER CAR AND LOCOMOTIVE PAINTERS' ASSOCIATION.—(See A. R. A., Division V.)

MASTER CAR BUILDERS' ASSOCIATION.—(See A. R. A., Division V.)

MOBILE TRAFFIC & TRANSPORTATION CLUB.—T. C. Schley, 71 Conti St., Mobile, Ala. Regular dinner meetings, 6 p. m., on 2nd Thursday of each month, Cawthon Vineyard, Mobile, Ala.

NATIONAL ASSOCIATION OF RAILWAY TIE PRODUCERS.—J. S. Penney, T. J. Moss Tie Company, 720 Security Bldg., St. Louis, Mo. Next convention, January 28-29, 1926, Hotel Cleveland, Cleveland, Ohio.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—James B. Walker, 49 Lafayette St., New York.

NATIONAL FOREIGN TRADE COUNCIL.—O. K. Davis, 1 Hanover Square, New York.

NATIONAL HIGHWAY TRAFFIC ASSOCIATION.—Elmer Thompson, 12 East 53rd St., New York.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. W. Kelly, 825 South Wabash Ave., Chicago. Annual exhibition, March 8-11, Coliseum, Chicago, at convention of American Railway Engineering Association.

NATIONAL SAFETY COUNCIL.—Steam Railroad Section: E. R. Cott, Safety Agent, Hocking Valley Ry., Columbus, Ohio.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, 2nd Tuesday in month, excepting June, July, August and September, Copley-Plaza Hotel, Boston, Mass.

NEW YORK RAILROAD CLUB.—Harry D. Vought, 26 Cortlandt St., New York. Regular meetings, 3rd Friday in month, except June, July and August, at 29 W. 39th St., New York.

PACIFIC RAILWAY CLUB.—W. S. Wollner, 64 Pine St., San Francisco, Cal. Regular meetings, 2nd Thursday in month, alternately in San Francisco and Oakland.

RAILWAY ACCOUNTING OFFICERS' ASSOCIATION.—E. R. Woodson, 1116 Woodward Building, Washington, D. C.

RAILWAY BUSINESS ASSOCIATION.—Frank W. Noxon, 600 Liberty Bldg., Broad and Chestnut Sts., Philadelphia, Pa. Annual meeting, November, 1925.

RAILWAY CAR MANUFACTURERS' ASSOCIATION.—W. C. Tabbert, 61 Broadway, New York.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 515 Grandview Ave., Pittsburgh, Pa. Regular meetings, 4th Thursday in month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY DEVELOPMENT ASSOCIATION.—(See Am. Ry. Development Assn.)

RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.—Edward Wray, 9 S. Clinton St., Chicago. Annual meeting with Association of Railway Electrical Engineers.

RAILWAY EQUIPMENT MANUFACTURERS' ASSOCIATION.—Joseph Sinkler, Pilot Packing Co., Peoples Gas Bldg., Chicago. Meeting with Traveling Engineers' Association.

RAILWAY FIRE PROTECTION ASSOCIATION.—R. R. Hackett, Baltimore & Ohio R. R., Baltimore, Md. Annual meeting, October 20-22, 1925, Chicago.

RAILWAY REAL ESTATE ASSOCIATION.—C. C. Marlor, Room 1243, Transportation Building, Chicago.

RAILWAY SIGNAL ASSOCIATION.—(See A. R. A., Division IV., Signal Section).

RAILWAY STOREKEEPERS' ASSOCIATION.—(See A. R. A., Division VI.)

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1841 Oliver Bldg., Pittsburgh, Pa. Meets with Mechanical Division, A. R. A.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, 30 Church St., New York. Meets with Telegraph and Telephone Section of A. R. A., Division I.

RAILWAY TREASURY OFFICERS' ASSOCIATION.—L. W. Cox, Commercial Trust Bldg., Philadelphia, Pa. Annual meeting, September 8-9, 1925, Hotel Champlain, Bluff Point, N. Y.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—P. J. McAndrews, C. & N. W. Ry., Sterling, Ill. Next convention, September 22-24, 1925, Kansas City, Mo. Exhibit by Track Supply Association.

ST. LOUIS RAILWAY CLUB.—B. W. Frauenthal, Union Station, St. Louis, Mo. Regular meetings, 2nd Friday in month, except June, July and August.

SIGNAL APPLIANCE ASSOCIATION.—F. W. Edmunds, Sunbeam Electric Manufacturing Company, New York City. Meeting with American Railway Association, Signal Section.

SOUTHEASTERN CARMEN'S INTERCHANGE ASSOCIATION.—J. E. Rubley, Southern Railway Shop, Atlanta, Ga. Meets semi-annually.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, P. O. Box 1205, Atlanta, Ga. Regular meetings, 3rd Thursday in January, March, May, July, September and November, Piedmont Hotel, Atlanta.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. L. Carrier, Car. Serv. Agent, Tenn. Cent. Ry., 319 Seventh Ave., North Nashville, Tenn.

SUPPLY ASSOCIATION OF AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—H. S. White, 9 N. Jefferson St., Chicago.

TRACK SUPPLY ASSOCIATION.—W. C. Kidd, Ramapo-Ajax Corporation, Hillburn, N. Y. Meets with Roadmasters' and Maintenance of Way Association.

TRAVELING ENGINEERS' ASSOCIATION.—W. O. Thompson, 1177 East 98th St., Cleveland, Ohio. Annual meeting, September 15-18, 1925, Chicago. Exhibit by Railway Equipment Manufacturers' Association.

WESTERN RAILWAY CLUB.—Bruce V. Crandall, 226 West Jackson Boulevard, Room 1001, Chicago. Regular meetings, 3rd Monday each month, except June, July and August.

WESTERN SOCIETY OF ENGINEERS.—Edgar S. Nethercut, 1735 Monadnock Block, Chicago, Ill.

Traffic News

The Lehigh Valley has opened a new city ticket office in Newark, N. J., in the Chamber of Commerce Building, 24 Branford Place. The division freight agents' office will also be located in the same building.

The Women's Traffic Club of Los Angeles (Cal.) held its regular meeting on August 19. Major Marchetti spoke on marine insurance and Frederick Simpson on the working of the traffic department of a department store.

At the organization meeting of the Pacific Northwest Regional Advisory Board on August 27 at Portland, Ore., A. F. S. Steele, manager of the Apple Growers' Association, Hood River, Ore., was elected chairman, and H. J. Arnett, district manager of the American Railway Association, was elected secretary.

The Detroit & Mackinac has been granted permission by the Michigan Public Utilities Commission to operate a motor bus freight line between Alpena, Mich., and Onaway, a distance of 46 miles. This road has also applied to the commission for permission to operate a motor passenger service, but has been advised to organize a subsidiary for this purpose.

The Seminole Limited of the Illinois Central will be operated in two sections beginning September 5, which will leave Chicago at 9:30 p. m., instead of 9:10 p. m., as at present, and arrive in Jacksonville, Fla., at 7 instead of 7:50 the second morning. The first section will consist of Pullman cars only, with observation, dining, and open section drawing room and compartment cars to Miami, Fla., Jacksonville, and Savannah, Ga. The second section will consist of reclining chair cars, coaches, and mail and express cars to Jacksonville.

The "Ponce de Leon" is the name of a new through passenger train between Cincinnati, Ohio, and Jacksonville, Fla., which is announced by the Southern Railway, to be put into service on September 7. The train will have sleeping cars to and from Chicago, Detroit and Cleveland as well as Cincinnati and Louisville. Southbound the train will leave Cincinnati at 6:45 p. m. arriving at Jacksonville at 7:55 p. m. the next day; northbound, Jacksonville 9:30 a. m., Cincinnati 9:20 a. m. Southern Railway dining cars will serve all meals.

At a meeting of the Northwest Regional Advisory Board at Minneapolis, Minn., on August 26, it was reported that the accumulation of cars of grain at sampling points on the Great Northern, the Northern Pacific and the Minneapolis, St. Paul & Sault Ste. Marie threatens a congestion which may necessitate the issuance of embargoes against further shipments. The sampling points are at Willmar, Minn., St. Cloud, Cass Lake, Sandstone, and Grand Forks, N. D., on the Great Northern; Glenwood, Wis., and Thief River Falls, Minn., on the Minneapolis, St. Paul & Sault Ste. Marie, and Staples, Minn., on the Northern Pacific. Wheat receipts at Minneapolis on August 26 amounted to 543 cars, as compared with 115 cars a year ago; oats amounted to 200 cars as compared with 85 cars a year ago, and barely 108 cars as compared with 24.

Representatives of the steel industry in the Illinois district, at a meeting in Chicago on August 26, adopted a plan to meet with the carriers in an effort to work out a rate schedule that will maintain the existing competitive parity among steel products manufacturers. The action follows the recommendation of the Interstate Commerce Commission, that a point to point rate be put into effect, to supplant the present point of origin and point of destination structure on consideration of the application of the Jones & Laughlin Company. Point to point rates, it is alleged, will prove a burden to steel products manufacturers who are located at some more distant points from the primary producers than are their competitors. The recommendation was made only to apply to certain points in the Illinois district. The Assembly passed a resolution that shippers and receivers support the carriers in an application to the Interstate Commerce Commission for an extension of time for further consideration of the subject before the publication of any rates. The first meeting with the carriers was held on August 27.

Canadian Shippers Protest Against Railway Competition

A strong protest against duplication of service by the two principal Canadian railways is made by the Ontario Fruit Growers' Association and the Niagara Peninsula Fruit Growers' Association in a joint memorandum to the Dominion Railway Board. "It is our long-established opinion that the railway services of Canada are extravagant, and out of proportion to our population and present circumstances, and that the need of agriculture and other basic industries is for self-supporting transportation of their products, rather than for burdensome extravagances, such as duplication of expenses resulting from the maintenance and operation of parallel lines and of separate terminal facilities at common points, luxurious and duplicated passenger services and railway wages so apparently an inflexible factor in railway operation costs.

"That the expense of intense traffic solicitation methods of railways, each striving to obtain a larger proportion of our, at best, insufficient traffic," the fruit growers add, "is a burden that may well be lifted from the costs of transporting our basic products."

Program of Carriers for Western Rate Hearing

R. N. Van Doren, vice-president and general counsel of the Chicago & North Western, and chairman of the law committee for the western roads, has advised Chairman Aitchison of the Interstate Commerce Commission of the program adopted by the western roads for the presentation of their evidence at the initial hearing in the western rate case to begin at Chicago on September 8.

The first subject to be covered is that of "revenue needs of carriers." L. E. Wettling, statistician for the western lines, will present statistical data called for in the commission's notice of hearing. Railroad executives and President Aishton of American Railway Association will next be heard, on the general situation in western territory as to business activity; necessity of increased earnings to enable economical refunding operations, capital expenditures required, etc.

The next order will be that of the rate plan to be presented by the traffic witnesses. This will be in substantial accord with the public announcement submitted to the commission on the 13th of August. Next the testimony of economists dealing with the agricultural industry and with general price levels, and then the presentation of evidence by individual carriers. A few railroads have requested opportunity to present briefly their own peculiar conditions.

The committee believes that each topic will consume about two days, that is until September 18; but this is only an approximate estimate.

Canada Expects Good Crops

This year's Western crop prospects are starting a wave of optimism throughout the Dominion, and the railways are assured of their full share of the increased business to result. Some illuminating comment on the outlook was made in Toronto last week by Sir Henry Thornton, president of the Canadian National, who has just returned from a month's tour of Western Canada. "The Western crop," he said, "will produce 100,000,000 more bushels of wheat than last year. That means also that the Western farmer will have—again conservatively speaking—$100,000,000 more to spend than last year. This will translate itself in the form of purchases into much more than $100,000,000. These figures relate only to the Western farmer, and the total is greatly increased when the entire agricultural industry of the Dominion is considered.

"That means that manufacturing and business generally will benefit from the result of that stimulus. You cannot turn $100,000,000 additional money loose in Western Canada without its beneficial effect being felt throughout the Dominion.

"We find it manifesting itself already. This year's crop has not yet commenced to move, but, on the other hand, our gross earnings are increasing at the rate of 15 per cent per week. That means there is a certain anticipated feeling of increased business based on the assurance of a good crop."

Foreign Railway News

Sorocabana to Be Double Tracked

The Sorocabana Railway will be double tracked at a cost of approximately $2,500,000, according to Assistant Trade Commissioner Pierrot at Rio de Janeiro.

Belgians to Build Railway in Greece

A Belgian financial group has secured a contract from the government of Greece for the construction of approximately 225 miles of railway to cost approximately $21,000,000 completely equipped, according to press reports from Brussels.

Mexican Railways Offer Reduced Rates to Commercial Travelers

The National Railways of Mexico have put into effect a rate reduction of 25 per cent for commercial travelers on all their lines with a free baggage allowance of 70 kilograms instead of the customary 50 kilograms. This reduction applies also to commercial travelers from the United States who make frequent trips into Mexico. To benefit from the new rates a commercial traveler must apply to the chief of the department of traffic of the railways, sending two photographs and an endorsement from some chamber of commerce. After the application is approved he will receive a travel card which will be honored by all ticket agents on the National lines.

Promotion of Sir Henry Fowler

Sir Henry Fowler, K. B. E., has been promoted from deputy mechanical engineer to chief mechanical engineer of the London, Midland & Scottish Railway, effective November 1, succeeding George Hughes, who retires. The news of Sir Henry Fowler's promotion will be of interest to numerous persons in the United States. During the war he was superintendent of The Royal Aircraft Factories for the British government, and while serving in that position visited the United States. He was a joint general secretary of the recent International Railway Congress in London and was active in making and carrying out the arrangements of the British railways for the entertainment of the foreign visitors.

He was formerly chief mechanical engineer of the Midland Railway and became deputy chief mechanical engineer of the London, Midland & Scottish when the program of amalgamation of British railways was carried out, in accordance with which the London & North Western, Midland and some other lines were consolidated into the London, Midland & Scottish. He has been president of the Institution of Locomotive Engineers, of the Institution of Automobile Engineers and of the University of Birmingham Engineering Society.

Miscellaneous

The following reports have been sent to the Bureau of Foreign and Domestic Commerce from its agents in various parts of the world:

The reorganization of National Railways of Mexico has been postponed by order of the President without any reason being given.

The Australian railway strike is spreading with a possibility of including all railways operating in Queensland, according to a cable received from Trade Commissioner Elwood G. Babbitt.

South African railway development may be greatly stimulated by a proposed £10,000,000 loan under the Trade Facilities Act for the development of railways, bridge building, and cotton growing in South and South East Africa. The Chartered Company, the Beira Railway Company, the Tanganyika Development Company and the Zambesia Exploring Company are all interested in the project and would relieve the government of all the responsibility for the loan after five years. If the loan materializes, materials must be purchased as far as possible in Great Britain.

Equipment and Supplies

Locomotives

CHICAGO & NORTH WESTERN is inquiring for 30 locomotive boilers.

THE CHICAGO, LAKE SHORE & SOUTHBEND is inquiring for 3 electric locomotives.

THE NEW YORK, NEW HAVEN & HARTFORD is inquiring for 5, 25-ft. steel steam heating tenders.

THE SEABOARD AIR LINE has ordered 6 Mountain type and 4 Mikado type locomotives from the Baldwin Locomotive Works.

Equipment Program of the Chesapeake & Ohio

President W. J. Harahan of the Chesapeake & Ohio has authorized the purchase, at a cost of about $8,000,000, of the following equipment: Twenty simple Mallet type locomotives; 75 Mikado, heavy type locomotives; 5 heavy Pacific type locomotives; 10 heavy type switch engines; 125 steel caboose cars; 10 all steel combination passenger and baggage cars; 3 all steel mail cars; 2 ditchers; 4 dump cars and 2 locomotive cranes. The company is now in the market for this equipment.

Freight Cars

CHESAPEAKE & OHIO.—See item under locomotives.

THE SPOKANE INTERNATIONAL is inquiring for 3 refrigerator cars.

THE CALORIC COMPANY is inquiring for 2 tank cars of 5,500 gal. capacity.

THE PALACE POULTRY CAR COMPANY, Chicago, is inquiring for from 150 to 200 poultry cars.

THE TIDAL REFINING COMPANY, Tulsa, Okla., is inquiring for 75 tank cars of 8,000 gal. capacity.

THE BALDWIN LOCOMOTIVE WORKS is inquiring for 4 flat cars of 40 tons' capacity and 5 flat cars of 30 tons' capacity for export.

E. ATKINS & Co. has ordered 50 cane cars of 30 tons' capacity from the Magor Car Corporation. These cars are for export to Cuba.

Passenger Cars

CHESAPEAKE & OHIO.—See item under locomotives.

THE ILLINOIS CENTRAL is inquiring for 4 gasoline motor coaches.

THE SOUTHERN has ordered 4 dining cars from the Pullman Car & Manufacturing Corporation.

Iron and Steel

THE BOSTON & ALBANY is inquiring for 300 tons of steel for canopies at Springfield, Mass.

THE GEORGIA RAILROAD has ordered 3,000 tons of rail from the Tennessee Coal, Iron & Railroad Company.

THE CENTRAL RAILROAD OF NEW JERSEY is inquiring for 600 tons of steel for a bridge at Allentown, Pa.

THE TEXAS & PACIFIC is inquiring for 20,000 tons of rail, 300,000 tie plates and 2,000 kegs of spikes and bolts.

THE BALTIMORE & OHIO has given a contract to the American Bridge Company for 160 tons of steel for two bridges in Ohio.

THE DELAWARE, LACKAWANNA & WESTERN has ordered from the American Bridge Company 130 tons of steel for a bridge in New Jersey.

THE NEW YORK, NEW HAVEN & HARTFORD has ordered 125 tons of steel for a bridge at Waterbury, from the McClintic-Marshall Company.

THE ATCHISON, TOPEKA & SANTA FE has ordered 100 tons of structural steel for a machine shop addition at San Bernardino, Cal., from the Union Iron Works.

Machinery and Tools

THE ATLANTIC COAST LINE has ordered one 7½-ton, 40-ft. span crane from the Whiting Corporation.

THE UNION TANK CAR COMPANY has ordered one axle lathe from the Niles-Bement-Pond Company.

THE CHICAGO, ROCK ISLAND & PACIFIC has ordered one 3,400-lb. single frame hammer from the Niles-Bement-Pond Company.

THE LENOIR CAR WORKS has ordered from the Niles-Bement-Pond Company 2, 10-ton, 42-ft. span electric traveling cranes.

THE NEW YORK CENTRAL has ordered a 15-ton, 49-ft. span hand power traveling crane from the Niles-Bement-Pond Company.

THE AMERICAN CAR & FOUNDRY COMPANY has ordered a 44-ft. side head boring mill, from the Niles-Bement-Pond Company.

Miscellaneous

THE CENTRAL OF GEORGIA is inquiring for one scale test car.

Signaling

THE HOCKING VALLEY has ordered from the Union Switch & Signal Company an electro-mechanical interlocking for installation at Upper Sandusky, Ohio.

THE PENNSYLVANIA has ordered from the Union Switch & Signal Company a complete Style "P—5" electro-mechanical interlocking machine for New Brighton, Pa.; 12 working mechanical levers and 16 electric levers.

THE ILLINOIS CENTRAL has ordered from the Union Switch & Signal Company for changes in the existing Type "F" electric interlocking plant at Kensington, Ill., a new 15-lever section, Model 14; also 41 Style "R" color light signals and attendant apparatus.

THE NEW YORK RAPID TRANSIT COMPANY has ordered from the General Railway Signal Company a 24-lever Model 2, unit lever a.c. electric interlocking machine, 16 working levers, for installation at Ninety-fifth street, New York City, with switch machines, train stop layouts, color light signals and other apparatus.

THE SOUTHERN RAILWAY has ordered from the General Railway Signal Company color-light signals and other apparatus for use in carrying out the extensive changes in automatic block signaling described in the *Railway Age* of August 1, page 248; also a large amount of apparatus for the changes to be made on the line between Cincinnati, Ohio, and Meridian, Ala.

THE NEW YORK CENTRAL has ordered from the General Railway Signal Company a mechanical interlocking for installation at Granton, N. J., 28 working levers; also one 80-lever Model 2 unit lever type interlocking machine for installation at Nasby, Ohio. This machine will have 59 working levers, 11 spare levers and 10 spare spaces, complete with forced drop lever locks.

Additional A. T. C. on Illinois Central

The Illinois Central has contracted with the Union Switch & Signal Company for the materials for the installation of the Union continuous control automatic train stop system on the engine division between Fort Dodge, Ia., and Waterloo, 100 miles, single track, and the equipment of 38 locomotives. This division is the one included in the second order of the Interstate Commerce Commission, and the contract is in addition to that which the Union company has for an installation on the Champaign division, 123 miles, double track.

Supply Trade News

Fairbanks, Morse & Co., Chicago, plan the construction of a one-story addition to their plant at Indianapolis, Ind.

The Union Drawn Steel Company has moved its Chicago office from 564 West Adams street to 435 North Michigan avenue.

James F. Walsh, district sales manager of the **Moline Iron Works**, Moline, Ill., with headquarters in Chicago, has been elected a director.

The General American Tank Car Corporation has acquired the plant of the Lone Star Tank Company of Fort Worth, Tex., and Wichita Falls.

The Marlin-Rockwell Corporation, New York, manufacturers of ball bearings, has purchased the plant of the Strom Ball Bearing Manufacturing Company, Chicago.

G. H. Woodroffe has been appointed metallurgical engineer, a newly created position, of the **Reading Iron Company's** boiler tube department, at Reading, Pa. Mr. Woodroffe has been closely associated with the iron and steel industry for many years, having served as engineer of tests during the last five years of a nine years' service, with the Baldwin Locomotive Works and since 1917 he has been mechanical and metallurgical engineer for the Parkesburg Iron Company, Parkesburg, Pa., manufacturers of charcoal iron boiler tubes. Mr. Woodroffe is serving in an important capacity with the American Society for Testing Materials, as secretary of Committee A-1 on Steel and is also a member of the American Society of Mechanical Engineers.

G. H. Woodroffe

T. P. Kahoe, manager of the **Ingot Iron Railway Products Company**, Chicago, a subsidiary of the **Armco Culvert & Flume Manufacturers' Association**, Chicago, has resigned.

The Western Electric Company, Chicago, has acquired a building at 570 Indiana street, Savannah, Ga., which will be remodeled and equipped for a factory branch and distributing works.

The National Lumber & Creosoting Company is planning the construction of a tie treating plant at Salida, Colo., to treat ties and other timber for the Denver & Rio Grande Western.

E. J. Bartlett, general manager of the **Baker R. & L. Company**, Cleveland, Ohio, has been elected president to succeed **E. J. Stahl**, who has been made chairman of the board of directors.

The Hymans-Michaels Company, Chicago, has opened an office at 817 Magnolia building, Dallas, Tex., and has placed **J. R. Crandall**, formerly connected with its St. Louis office, in charge of this district.

Plans for the consolidation of the **Keystone Steel & Wire Company**, Peoria, Ill., and the **Kokomo Steel & Wire Company**, Kokomo, Ind., have been submitted to the stockholders of the two companies for approval.

The Diamond Iron Works, Minneapolis, Minn., has purchased the controlling stock of the Mahr Manufacturing Company, Minneapolis, Minn., manufacturers of oil-burning equipment, which was owned by W. M. Horner.

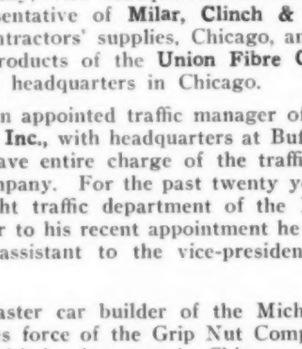
The Boss Bolt & Nut Works Division of the **Hoopes & Townsend Corporation,** Philadelphia, Pa., has been organized through the consolidation of the American Bolt Corporation, New York, and the Hoopes & Townsend Company, Philadelphia.

Milburn Moore, eastern engineering editor of the *Railway Age* and Railway Engineering and Maintenance, has resigned to become associated with the **Verona Tool Works,** Pittsburgh, Pa., as district sales manager, with headquarters at 50 Church street, New York.

W. G. Willcoxson, formerly representative of the Gold Car Heating & Lighting Company, with headquarters in Chicago, has been appointed representative of **Milar, Clinch & Co.,** railway, mine, mill and contractors' supplies, Chicago, and in addition will handle the products of the **Union Fibre Company,** Winona, Minn., with headquarters in Chicago.

Clyde C. Tiffany has been appointed traffic manager of the **Beaver Products Company, Inc.,** with headquarters at Buffalo, N. Y. Mr. Tiffany will have entire charge of the traffic at all of the plants of the company. For the past twenty years, he has served in the freight traffic department of the New York Central, and just prior to his recent appointment he was chief clerk to commerce assistant to the vice-president in charge of traffic.

E. H. Wood, former master car builder of the Michigan Central, has joined the sales force of the Grip Nut Company as district sales manager, with headquarters in Chicago. Mr. Wood entered the service of the Canadian Pacific as a car repairer in 1899, and subsequently was successively car inspector, foreman, general foreman and general car foreman until September, 1915, when he resigned. The following month he went to the Michigan Central as inspector at Kensington. He was appointed general car foreman in November of the same year, and assistant master car builder in May, 1919. Mr. Wood was appointed master car builder in May, 1920, and later became passenger car foreman at Chicago, remaining in that service until January of this year.



E. H. Wood

The Kelly-Atkinson Construction Company, Chicago, engineers and contractors, has formed two subsidiary corporations, the **Kelly-Atkinson Building Company** and the **Kelly-Atkinson Foundation Company. E. A. Wall,** director of the Associated Building Contractors, has also been appointed vice-president of the Kelly-Atkinson Building Company, and **J. F. Wilhelm,** formerly engineer of construction of the Union Bridge & Construction Company, Kansas City, Mo., has been appointed vice-president of the Kelly-Atkinson Foundation Company.

Leading share-holding interests have approved the merger of the **Otis Steel Company,** the **Trumbull Steel Company,** and the **Midland Steel Company.** Directors also have given individual approval but no official action has been taken pending the taking of an inventory of the Trumbull Steel Company. Under the plans of the merger **E. J. Kulas,** president of the Otis Steel Company, will head the new corporation which will have a capital structure consisting of about $33,000,000 of 7 per cent preferred stock, 1,760,000 non par value common shares, and $12,500,000 of new 6 per cent bonds in addition to a $17,500,000 bond issue of the Trumbull Steel Company which will remain outstanding.

The Locomotive Terminal Improvement Company, Chicago, has taken over the manufacturing department of the National Boiler Washing Company, Chicago. This includes the manufacture of leadized pipes, leadized boiler tubes for both locomotive and stationary use, post and pillar cranes, and other locomotive terminal facilities. Officers of the Locomotive Terminal Improvement Company are: president, **Spencer Otis,** president of the National Boiler Washing Co.; secretary and treasurer, **John S. Maurer,** vice-president and treasurer of the National Boiler Washing Company; chief engineer, **F. S. Wichman,** chief engineer of the National Boiler Washing Company; and sales engineer, **W. J. Wignall,** of the engineering and purchasing department of the National Boiler Washing Company.

L. G. Plant, assistant to the president of the National Boiler Washing Company, Chicago, has resigned to engage in selling and financing locomotive terminal utilities, with offices in the Railway Exchange building, Chicago. He will represent the **T. W. Snow Construction Company** as general railway sales agent for this company's unit system locomotive coaling station and the **Locomotive Terminal Improvement Company** as general sales agent for the direct steaming system. Mr. Plant was born in Minneapolis, Minn., in 1885. He was first employed by the Baldwin Locomotive Works as a special apprentice, and later as a boiler maker's apprentice on the Southern railway. He studied at the University of Virginia and at Stevens Institute of Technology, from which he received the degree of mechanical engineer in 1909. He then entered the employ of the Southern Pacific Lines as a student of operation. Later he was employed as a mechanical engineer on a subsidiary of the Southern Pacific in charge of equipping the railroad for the use of fuel oil and in 1913 was appointed superintendent of fuel service for the Southern Pacific Lines in Texas and Louisiana. In 1914 he was appointed fuel engineer on the Seaboard Air Line, which position he held until 1918. Shortly after the Division of Finance and Purchases of the Railroad Administration was organized at Washington, he was made progress engineer and chief clerk to the manager of the procurement section. In March, 1920, Mr. Plant joined the staff of the *Railway Age* as an associate editor and a year later went to the Railway Review in the same capacity. On December 30, 1922, he was appointed to the position of editor of the Railway Review. In December, 1923, he was made assistant to the president of the National Boiler Washing Company, Chicago, which position he has held until his recent appointment.

L. G. Plant

Obituary

Silas J. Llewellyn, president of the Interstate Iron & Steel Company, Chicago, died on September 3, after an illness of several months.

Trade Publications

TRUCKS AND TRACTORS.—A 40-page catalog descriptive of the mechanical features of the various types of Crescent trucks and tractors and showing the purpose for which each type is particularly adapted, has been issued by the Crescent Truck Company, Lebanon, Pa. Specifications and line drawings also are included.

Railway Construction

ASHERTON & GULF.—Preliminary plans for the construction of an extension from Asherton, Tex., to Eagle Pass, a distance of 60 miles, are being completed. The cost of the construction is estimated at $600,000. The application to the Interstate Commerce Commission for permission to construct the line was reported in the *Railway Age* of April 4.

ATCHISON, TOPEKA & SANTA FE.—A contract has been awarded to the Sumner Sollitt Company, Los Angeles, Cal., for the construction of a passenger station at Monrovia, Cal., to cost $75,000, as reported in the *Railway Age* of August 1.

BOSTON & MAINE.—A contract for the construction of a seven-story office building in East Cambridge, Mass., has been awarded to the Scully Company, Cambridge, Mass. The cost is estimated at $260,000.

CHESAPEAKE & OHIO.—A contract has been awarded to Milo R. Hanke, Cincinnati, O., for the erection of a new boiler shop at Huntington, W. Va. The building will be of steel and brick construction with a cement tile roof and a wood block floor, 140 ft. by 404 ft. It will have a boiler shop bay 90 ft. wide with a clear height of 40 ft. 6 in. and a machine bay 50 ft. wide with 37 ft. clear height. Two 15-ton electric traveling cranes will be installed in the machine bay and a 50-ton one in the boiler bay. The building will also have a number of 2-ton and 5-ton jib cranes. Modern machine tool equipment will be provided. The total cost of the project is estimated at $575,000.

CHICAGO, MILWAUKEE & ST. PAUL.—Four electric cinder plants for installation at St. Paul, Minn., have been purchased from the Roberts & Schaefer Company, Chicago.

CHICAGO, ROCK ISLAND & PACIFIC.—Plans for the construction of an extension from Liberal, Kan., southwest to Amarillo, Tex., a distance of 145 miles, which are being completed, indicate that the project will cost approximately $4,000,000. The construction of the proposed extension from Billings, Okla., to Ponca City, a distance of approximately 30 miles, is estimated to cost $719,000. These projects were first reported in the *Railway Age* of August 15.

DELAWARE, LACKAWANNA & WESTERN.—This company is reported to be negotiating with the municipal authorities of Paterson, N. J., for the acquisition of the right of way of the Morris Canal through that city. The property adjoins the railroad right of way through a large part of the way and, it is reported, the company wishes the property for the construction of additional main tracks. The Morris Canal is the property of the state, but the cities have first rights in purchasing its real assets.

FLORIDA EAST COAST.—A contract has been awarded to the Donahoo Construction Company, Jacksonville, Fla., for second track construction between Boca Raton, Florida, and Colohatchee.

FLORIDA EAST COAST.—A contract has been awarded to the Pittsburgh-Des Moines Steel Company for the erection of water stations at Bowden, Fla., and Hialeah.

ILLINOIS CENTRAL.—Bids were closed on September 1, for the construction of the superstructures of the buildings in the locomotive and car repair terminal at Paducah, Ky., reported in the *Railway Age* of January 31. The buildings to be constructed include a locomotive erecting shop, locomotive repair shop, car repair shop, carpenter shop, wood mill and store room, foundry boiler shop, blacksmiths' shop, power house, tank shop and air brake shop. As reported in the *Railway Age* of February 14, the contract for the construction of the foundations for the buildings was awarded to Joseph E. Nelson & Sons, Chicago.

INDIANA HARBOR BELT.—A contract has been awarded to the Public Construction Company for the construction of a pumping plant and reservoir at Belmont Avenue, Chicago, reported in the *Railway Age* of July 25.

MISSISSIPPI & SCHOONA VALLEY.—The Interstate Commerce Commission has authorized this company to construct a line from a connection with the Illinois Central at Bryant, Miss., to Bruce, 22 miles; estimated cost $138,816. Rails and cars will be leased to company by Illinois Central.

PACIFIC ELECTRIC.—An extension of the subway from its present western terminus beyond the traffic intersection of Glendale Boulevard, first and second streets, Los Angeles, California, is contemplated.

READING.—This company plans to increase its terminal facilities at Port Richmond, Philadelphia, Pa., by the erection of a new grain elevator of 2,500,000 bu. capacity. The cost will be approximately $3,500,000.

ROUYN MINES.—After negotiations covering many months an agreement has been reached between the Canadian National and the Rouyn Mines Railway Company whereby the latter will construct a line from O'Brien, on the main line of the National Transcontinental Railway, south about 50 miles to Rouyn in the heart of the new gold fields in northwestern Quebec. The Rouyn Mines Railway is a company incorporated under a charter from the provincial government of Quebec. When completed the road will be leased and operated by the Canadian National Railways. Construction of the line will commence this fall, and tenders for the various building supplies are to be in at Montreal by September 14.

SOUTHERN.—The construction of a viaduct at Third street, Chattanooga, Tenn., at a cost of $450,000, is reported authorized.

SOUTHERN PACIFIC.—A contract has been awarded to Roberts & Schaefer Company, Chicago, for the installation of a 2-track electric cinder plant at Tucson, Ariz., and a 1-track hopper cinder plant at Lordsburg, New Mexico.

SOUTHERN PACIFIC.—A contract has been awarded to the Ogle Construction Company, Chicago, for the construction of coaling stations at seven places. Two-hundred-ton reinforced concrete stations will be constructed at Tucson, Ariz., Deming, N. M., and Lordsburg and a 300-ton reinforced concrete station will be constructed at Bowie, Ariz. Hundred-ton steel coaling stations will be constructed at San Simon, Ariz., Globe and Geronimo. The plants at Bowie, Tucson, Lordsburg and Globe will be equipped with sanding facilities. The Tucson, Deming, Lordsburg and Globe stations will be electrically operated and the others operated by oil engines.

ST. LOUIS-SAN FRANCISCO.—Bids were closed on September 8 for the construction of a brick and concrete, one-story mail, baggage and express building at Springfield, Mo., to cost approximately $20,000.

ST. LOUIS-SAN FRANCISCO.—A contract has been awarded to the Gerhardt Construction Company, Cape Girardeau, Mo., for the construction of a passenger station at Fayetteville, Ark., to cost $15,000, as reported in the *Railway Age* of July 25.

ST. LOUIS-SAN FRANCISCO.—A survey party is now in the field making preliminary survey for the connection between the Muscle Shoals, Birmingham & Pensacola, recently purchased by the St. Louis-San Francisco, with the Frisco main line in the vicinity of Birmingham, Ala. The distance between the two lines is approximately 150 miles.

UNION PACIFIC.—An agreement has been made with the city of Denver, Colo., for the construction of a subway under the tracks of the Union Pacific at 38th street. The estimated cost of $200,000 will be divided as follows: 70 per cent to the railroad and 30 per cent to the city.

VIRGINIAN.—A contract has been awarded to the Roberts & Schaefer Company, Chicago, for the construction of a fireproof sand handling plant at Mullens, W. Va.

WABASH.—Bids will soon be received for the grading in connection with the construction of a yard at Decatur, Ill. The work involves the removal of approximately 50,000 yd. of earth.

WABASH.—A contract has been awarded to a local contractor for the construction of a roundhouse and service building at North Kansas City, Mo., to cost $100,000, as reported in the *Railway Age* of August 15.

Railway Financial News

CHICAGO, ROCK ISLAND & PACIFIC.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its line from Preemption, Ill., to Cable, 5.3 miles.

DELAWARE, LACKAWANNA & WESTERN.—*Bonds.*—This company and the Morris & Essex have applied to the Interstate Commerce Commission for authority for the issuance by the Morris & Essex of $11,582,000 construction mortgage gold bonds, to be delivered to the Lackawanna. The latter has also applied for authority to guarantee such bonds to the amount of $35,000,000.

GEORGIA & FLORIDA.—*Reorganization Plan.*—John Skelton Williams, receiver, has addressed a circular to bondholders giving details of the plan of reorganization for this property which has been in receivership since 1915. The plan calls for the raising of $4,000,000 to $4,500,000 to retire the receiver's certificates and other obligations having priority over the first mortgage bonds, totaling between $2,500,000 and $3,000,000. A loan to the United States is to be extended and the $200,000 terminal bonds are not due until 1930. First mortgage bonds outstanding total $6,220,000. The new money which it is expected to raise would also construct the 57 mile extension from Greenwood, S. C., to Augusta, previously recommended. Sale of prior lien bonds limited to $8,000 or $10,000 a mile of road has been suggested as a method of raising the necessary cash funds, together with the sale of such portion of the junior bonds as may not be distributed to holders of the present bonds in the reorganization.

KALAMAZOO, LAKE SHORE & CHICAGO.—*Physical Assets Sold.*—This 45-mile line which was abandoned in November, 1924, has disposed of all its physical assets to the Hyman-Michaels Company, dealers in second hand equipment, and the entire line will be dismantled and disposed of by this company.

KANSAS CITY NORTHWESTERN.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its lines from Kansas City to Seneca, Kan., 117 miles; from Axtell Junction, Kan., to Virginia, Neb., 32.92 miles; and a branch from Menager Junction, Kan., to Leavenworth, Kan., 11.61 miles, 161.57 miles in all. The company was recently refused a loan by the commission on the ground that at the time the application was made it was not an operating carrier, and states that it is without funds or credit to rehabilitate the property.

PARIS & MT. PLEASANT.—*Receiver's Certificates.*—The Interstate Commerce Commission has granted authority to this company to issue $90,000 of 6 per cent receiver's refunding certificates to refund a like amount of 8 per cent certificates now outstanding.

PENNSYLVANIA.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire control of the Western Allegheny by purchasing $911,100 of its stock, having already purchased $600,000 of the stock.

PORT ANGELES WESTERN.—*Operation of Line.*—The Interstate Commerce Commission has issued a certificate authorizing this company to operate a line from Disque, Clallam County, Wash., to Tyee, 35 miles. This road was built by the United States Spruce Production Corporation in 1918 and 1919 as a war agency for the production of airplane material and was originally designated as "Spruce Production Railroad No. 1." It was acquired by other interests in 1922 and the new railway company was organized on February 10, 1925. Permission to retain excess earnings was denied. Application relative to the issuance of securities is still pending.

PORT TOWNSEND SOUTHERN.—*Abandonment.*—The Interstate Commerce Commission has authorized this company and the Port Townsend & Puget Sound, lessee, to abandon 13.91 miles of line from Discovery Junction to Quilcene, Jefferson County, Wash.

SANTA FE NORTHWESTERN.—*Operation of Line.*—The Interstate Commerce Commission has granted a certificate authorizing this company to operate a line extending from a connection with the Atchison, Topeka & Santa Fe at Bernalillo, N. Mex., to Deer Creek, 40.21 miles. The road is owned by the White Lumber Company. Permission to retain excess earnings was denied.

SIOUX CITY TERMINAL.—*Stock.*—The Interstate Commerce Commission has authorized the issuance of $100,000 capital stock of $100 par value, the proceeds to be used to reimburse the Sioux City Stock Yards Company for advances.

ST. LOUIS-SAN FRANCISCO.—*7 Per Cent Common Dividend.*—The directors have declared a quarterly dividend of 1¾ per cent on the common stock, payable October 1 to stockholders of record September 15. The previous payments were on a 5 per cent basis. A brief announcement said:

"The board considers the substantial earnings as amply justifying a more liberal distribution to the common stockholders."

The common and preferred issues have advanced steadily this year, the former from a low of 57½ on January 16 to a high point of 102¼ on August 28.

TAMPA & GULF COAST.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to sell $434,000 of first mortgage 5 per cent bonds to Buell & Co., at 85½, the proceeds to be applied to indebtedness to the Seaboard Air Line.

TAVARES & GULF.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue $425,000 of first mortgage 10-year 5 per cent bonds, to be guaranteed by the Seaboard Air Line.

VIRGINIAN.—*Bonds.*—The Interstate Commerce Commission has authorized this company to procure the authentication and delivery of $3,109,000 of first mortgage 5 per cent 50-year bonds.

Boston & Maine Reorganization

The plan for reorganization of the Boston & Maine Railroad having been approved by a large majority of bonds and stock, the general readjustment committee, in a statement to stockholders which was mailed on Wednesday, announces that it "feels that the success of the reorganization is assured, and believes that the time has arrived for taking the steps necessary to effect it."

Stockholders are now asked to send in their stock under the provisions of the plan, which has been amended in several minor details.

The amendments include a reduction in the percentage of shares to be forfeited by those who fail to subscribe to the new prior preference stock; and an extension of time for payments on this new stock so that it may be paid for in seven semi-annual installments, instead of five. Because of legal and other questions, the earlier idea of consolidating the several classes of first preferred stock and of converting into common stock the present preferred stock is not included in the final plan.

The election to purchase new stock or to surrender old stock is now described as follows:

Holders of first preferred stock, Classes A and E: Will either purchase at par $12 par value of prior preference stock for each share of old stock held, or surrender 12 per cent of old stock, retaining 88 per cent.

Holders of first preferred stock, Classes B and C: Will either purchase at par $12 par value of prior preference stock for each share of old stock held, or surrender 8 per cent of old stock, retaining 92 per cent.

Holders of first preferred stock, Class D: Will either purchase at par $12 par value of prior preference stock for each share of old stock held, or surrender 6½ per cent of old stock, retaining 93½ per cent.

Holders of preferred stock: Will either purchase at par $15 par value of prior preference stock for each share of old stock held, or surrender 12 per cent of old stock, retaining 88 per cent.

Holders of common stock: Will either purchase at par $20 par value of prior preference stock for each share of old stock held, or surrender 32 per cent of old stock, retaining 68 per cent.

Final arrangements for extension or renewal of bonds as contemplated by the plan must wait until stockholders have acted, the general readjustment committee's statement says. The plan will be placed before a special meeting of stockholders on September 23.

In a letter to the committee, dated August 25, which was sent to stockholders with the statement and the plan, Homer Loring, chairman of the executive committee, recites the earnings record of the Boston & Maine for the first seven months of 1925, showing net income of $1,299,420 as compared with a deficit of $22,957 in the same period of last year. He estimates net income for this

year at approximately $3,000,000, which compares with $1,772,000 in 1924. The letter adds:

"The railroad expects to pay from date of issue 7 per cent dividends on the new prior preference stock" and "if net income continues to improve the railroad should be able to commence dividends on the first preferred stock by the end of 1926."

Summarizing the broader features of the plan, the letter says:

"The principal purposes of the reorganization plan are to give the road ample time to regain credit by extending $43,500,000 bonds maturing from 1925-1932, and to provide money for additions and improvements.

"The $13,000,000 to be realized from prior preference stock will be expended over a period of three years for profitable improvements as new equipment, side tracks, grade reductions, double tracks, terminal facilities, etc. It is expected that the expenditures of this money will return to the road through better service and operating economies from 12 per cent to 15 per cent.

"From the view point of the stockholders probably the most important advantage from the reorganization plan will be to place the railroad in such a strong financial position that it will be justified in distributing in dividends a large proportion of the annual earnings."

Hearing on Sale of Equipment

CHICAGO, MILWAUKEE & ST. PAUL.—*Certificates.*—The question of whether railroads should sell their securities on competitive bids was again raised in a hearing before Commissioner Woodlock and Director Mahaffie of the Bureau of Finance of the Interstate Commerce Commission at Washington on September 1 on the application of the receivers of the Chicago, Milwaukee & St. Paul for authority for the sale of $9,270,000 of 5 per cent equipment trust certificates to Kuhn, Loeb & Co., and the National City Company at 97. It is understood that the hearing was ordered because of criticisms expressed in letters by Freeman & Co., that they had not had an opportunity to bid on the issue, and that Mr. Freeman had indicated to Mark W. Potter, one of the receivers, about July 1, that he would be willing to offer 99 for them at that time. Mr. Potter testified that the negotiations had been handled by Receiver H. E. Byram, who had sought a price of 97½ but could only obtain 97, and that the sale had been approved by the court. It was also brought out by J. J. Hanauer, of Kuhn, Loeb & Co., that one of the conditions was that the purchasers of the certificates were to provide the 25 per cent cash payment on the equipment, and that Mr. Freeman had later declined to participate. Mr. Freeman, upon taking the stand, said that he had not understood when he talked with Mr. Potter the conditions of the sale, and he said that on July 27, when the offer of 97 was made, market conditions had so changed that the price of 97 was fair. He said that at the time he spoke of offering 99 he thought he knew where he could dispose of the securities to large institutions such as insurance companies, after which Mr. Hanauer again took the stand and said that one of the reasons for the price was that insurance companies in New York and Massachusetts could not take the certificates under the law because the road was in receivership. In reply to questions by Director Mahaffie, Mr. Freeman said he thought the present method of placing railroad securities, particularly equipments, could be improved, and he thought the railroads might save, perhaps, one-half per cent by obtaining competitive bids, but he also said that he was not committed to the idea of competitive sales and that it was an open question.

Dividends Declared

Bangor & Aroostock.—Common, 75c, quarterly; preferred, 1¾ per cent, quarterly, both payable October 1 to holders of record September 15.

Fonda Johnstown & Gloversville.—Preferred 1½ per cent quarterly, payable September 15 to holders of record September 10.

Lackawanna R. R. of N. J.—1 per cent, quarterly, payable October 1 to holders of record September 8.

Newark & Bloomfield.—3 per cent, payable October 1 to holders of record September 22.

New York, Lackawanna & Western.—1¼ per cent, quarterly, payable October 1 to holders of record September 15.

St. Louis Southwestern.—Preferred, 1¼ per cent, quarterly, payable September 30 to holders of record September 5.

Warren.—3½ per cent, payable October 15 to holders of record October 5.

Trend of Railway Stock and Bond Prices

	Sept. 1	Last Week	Last Year
Average price of 20 representative railway stocks	85.38	87.51	71.41
Average price of 20 representative railway bonds	90.81	91.35	87.85

Railway Officers

Operating

J. L. George has been appointed superintendent of telegraph of the Norfolk & Western, with headquarters at Roanoke, Va.

H. R. Laughlin has been appointed assistant superintendent of the Big Sandy division of the Chesapeake & Ohio (not the Norfolk & Western as incorrectly reported in the *Railway Age* of August 29) pursuant to the taking over for operation by that company of the Sandy Valley & Elkhorn.

M. L. Hayes has been appointed assistant superintendent of transportation of the Missouri Pacific, with headquarters at St. Louis, Mo. **H. T. Moore** has been appointed trainmaster of the Pittsburgh, Asbury and Fort Scott district of the Joplin division, with headquarters at Pittsburgh, Kan., succeeding J. R. Wilgus.

Dwight S. Brigham, assistant to the president of the Boston & Maine, has been appointed assistant general manager. Mr. Brigham was born on August 24, 1886, at Worcester, Mass., and was graduated from Harvard University with the degree of A. B., in 1908. He took one year of post-graduate work in the Engineering School and School of Business Administration, and entered railway service in November, 1909, and was consecutively with the Boston & Albany eight years as crew dispatcher, chief clerk to the general superintendent, trainmaster and assistant to the general superintendent. For two years during the world war he was with the United States army as major and lieutenant-colonel, Corps of Engineers. His entire service in France was with the 14th Engineers, Department of Light Railways, and as regulating officer under the general staff. In 1919, he went with the Boston & Maine as assistant to the president, which position he held at the time of his recent appointment to assistant general manager.

D. S. Brigham

W. H. Bevans has resumed his duties as superintendent of the Western division of the St. Louis-San Francisco, with headquarters at Enid, Okla. **R. B. Butler,** acting superintendent of the Western division during Mr. Bevans' absence, has been appointed acting superintendent of the Southern division, with headquarters at Memphis, Tenn., succeeding **C. H. Claiborne,** who has been granted leave of absence on account of illness.

F. G. Gurley, superintendent of the Alliance division of the Chicago, Burlington & Quincy, with headquarters at Alliance, Neb., has been promoted to general superintendent of the Wyoming district, with the same headquarters, succeeding **A. G. Smart,** who has not retired, as reported in the *Railway Age* of August 29, but has been appointed assistant superintendent, with headquarters at Denver, Colo., at his own request. **L. C. McBride,** assistant superintendent at Denver, has been promoted to superintendent of the Alliance division, with headquarters at Alliance, Neb., in place of Mr. Gurley.

Frank C. Hoff, assistant to the general manager of the Pennsylvania, with headquarters at Philadelphia, retired on pension of August 31. He was born in Philadelphia on Au-

gust 6, 1855, and received his education in the Philadelphia public and high schools. On April 18, 1873, he entered the service of the Pennsylvania as a clerk in the office of the auditor of freight receipts, in the general offices at Philadelphia. On July 1, 1883, he was transferred to the general manager's office as statistician. He was advanced to the position of chief accountant to the general manager on June 1, 1899, and on May 15, 1916, he was appointed assistant to the general manager, which position he held until the time of his retirement.

F. P. Pelter, general manager of the Norfolk Southern, who has been appointed vice-president and general manager, was born on August 1, 1875, at Augusta Springs, Va., and was educated in the public schools of Covington, Va., and Richmond, Va. He entered railway service in May, 1889, as a messenger for the Louisville & Nashvile at Richmond, Ky. From 1890 to 1902 he was telegraph operator for the same road, in the maintenance of way department of the Atchison, Topeka & Santa Fe, and in various positions with the Elgin, Joliet & Eastern. In 1902 he became agent for the Southern at Birmingham, Ala., and in 1906, became trainmaster for the same road. He was promoted to assistant superintendent in 1907, and from 1908 to 1918 was successively superintendent of the Nashville division, Chattanooga division, Appalachia division, Asheville division and Memphis division of the same road. On February 1, 1918, he became general superintendent of the Southeastern district, which position he held until December 1, 1920, when he became general superintendent of the Southwestern district. On June 1, 1921, he became general manager of the Norfolk Southern, which position he held at the time of his recent appointment to vice-president and general manager of the Norfolk Southern.

Traffic

H. J. Schwietert, general development agent of the Illinois Central, with headquarters at Chicago, has not resigned to engage in other business, as was reported in the *Railway Age* of August 29, page 420. The report was entirely erroneous.

C. McD. Davis, assistant freight traffic manager of the Atlantic Coast Line, has been appointed freight traffic manager. He was born on July 1, 1879, near Hickory, N. C., and was educated in the public schools. He entered railway service on March 1, 1893, as a messenger in the local freight office of the Wilmington & Weldon (now a part of the Atlantic Coast Line) at Wilmington, N. C., and from that time until July 1, 1902, he held the following clerical positions in the local freight office: clerk in the freight claim department, stenographer in the same department, clerk in the passenger traffic department, rate clerk in the freight traffic department and chief rate clerk in the same department. From July 1, 1902, to January 1, 1906, he was chief clerk in the traffic department, and from January, 1906, to November, 1911, he was assistant general freight agent in charge of the rate and tariff bureau. In November, 1911, he became general freight agent for the Atlantic Coast Line, lines south of Charleston, S. C., and this position he held until February, 1916, when he became general freight agent for the entire system at Wilmington, N. C. From May, 1918, to February, 1920, he was a member of the Southern Freight Traffic Committee of the United States Railroad Administration, at Atlanta, Ga., and from March, 1920, to December 31, 1920, was a member of the Southern Freight Rate Committee, Southern carriers, at Atlanta. In January, 1921, he became assistant freight traffic manager of the Atlantic Coast Line, which position he held at the time of his recent appointment to freight traffic manager.

Engineering, Maintenance of Way and Signaling

George Lewis, general manager of construction for the Moffat Tunnel Commission, Denver, Colo., has been promoted to chief engineer, succeeding **R. H. Keays,** who has been appointed chief engineer of the Marathon Water Supply Project for Athens, Greece. The Marathon Water Supply Project will cost $11,000,000 and will require four years for its completion.

A. W. White has been appointed assistant division engineer of the Big Sandy division of the Chesapeake & Ohio, pursuant to the taking over of the Sandy Valley & Elkhorn by that company. In the *Railway Age* of August 29 it was incorrectly reported that this property had been acquired by the Norfolk & Western.

Mechanical

F. R. Butts, has been appointed acting master mechanic of the Brookfield division of the Chicago, Burlington & Quincy, with headquarters at Brookfield, Mo., to succeed H. H. Urbach, who has been assigned to other duties.

Purchasing and Stores

F. J. O'Connor, who has been appointed assistant purchasing agent of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, was born at El Paso, Ill., and graduated at Green Bay Commercial College in 1891. He entered railway service in May of that year as a clerk in the stores department of the Chicago, Milwaukee & St. Paul at Green Bay, Wis., and was promoted to storekeeper there in November, 1894. He was promoted to foreman of the stores department at Milwaukee, Wis., in July, 1895, and held that position until February, 1901, when he was appointed a clerk in the motive power department at Milwaukee. In November, 1902, Mr. O'Connor was promoted to signal inspector, with headquarters at Milwaukee, and was later promoted to assistant signal engineer. He was appointed chief clerk to the general superintendent of motive power in May, 1904, and held that position until September, 1916, when he was promoted to general storekeeper at Milwaukee. He was appointed assistant general storekeeper at Milwaukee in May, 1920, and continued in that capacity until his recent promotion to assistant purchasing agent at Chicago.

F. J. O'Connor

Special

H. W. Van Hovenberg has been appointed consulting sanitary engineer of the Chicago, Rock Island & Pacific in addition to his duties as sanitary engineer of the St. Louis Southwestern, his headquarters remaining at Texarkana, Tex. Mr. Van Hovenberg will co-operate with the department of personnel and public relations and the chief surgeon of the Rock Island and will have charge of the sanitary engineering program designed to eliminate malaria along the lines of the Rock Island in Arkansas, Louisiana, Texas, and elsewhere. In addition he will outline a plan for a comprehensive sanitary survey of the Rock Island lines throughout the middle west which will have for its ultimate object the elimination of unsanitary conditions in connection with the property of the company wherever found, with particular reference to surroundings affecting employees.

Obituary

J. H. Daley, mechanical superintendent of the New York, New Haven & Hartford, died in a hospital at Auburn, N. Y., on August 28.

S. A. Houck, assistant superintendent of the Duluth, South Shore & Atlantic, with headquarters at Marquette, Mich., was killed in an automobile accident near L'Anse, Mich., on August 30.